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Texas Essential Knowledge and Skills adopted 2012
Chapter 111

DM = Dimensions Math

Kindergarten

Standard	Standard Description	DM	Chapter	Lesson
Number and Operations				
The student applies mathematical process standards to understand how to represent and compare whole numbers, the relative position and magnitude of whole numbers, and relationships within the numeration system. The student is expected to:				
K(2)(A)	count forward and backward to at least 20 with and without objects;	KA	2	1, 2
			3	1–5
		KB	7	1–4
K(2)(B)	read, write, and represent whole numbers from 0 to at least 20 with and without objects or pictures;	KA	2	3–10
			3	6–10
		KB	7	3, 4
K(2)(C)	count a set of objects up to at least 20 and demonstrate that the last number said tells the number of objects in the set regardless of their arrangement or order;	KA	2	1
			3	1
		KB	7	1–4
K(2)(D)	recognize instantly the quantity of a small group of objects in organized and random.	KA	2	2
K(2)(E)	generate a set using concrete and pictorial models that represents a number that is more than, less than, and equal to a given number up to 20;	KA	3	12
		KB	7	8, 9
K(2)(F)	generate a number that is one more than or one less than another number up to at least 20;	KA	3	12
		KB	7	8, 9
K(2)(G)	compare sets of objects up to at least 20 in each set using comparative language; In DM K, students formally compare numbers within 10 only.	KA	6	1, 2

Standard	Standard Description	DM	Chapter	Lesson
K(2)(H)	use comparative language to describe two numbers up to 20 presented as written numerals; and	KA	6	3
K(2)(I)	compose and decompose numbers up to 10 with objects and pictures.	KB	8	1–11
The student applies mathematical process standards to develop an understanding of addition and subtraction situations in order to solve problems. The student is expected to:				
K(3)(A)	model the action of joining to represent addition and the action of separating to represent subtraction;	KB	9	1–11
			10	1–9
K(3)(B)	solve word problems using objects and drawings to find sums up to 10 and differences within 10; and	KB	11	1–9
K(3)(C)	explain the strategies used to solve problems involving adding and subtracting within 10 using spoken words, concrete and pictorial models, and number sentences.	KB	8	1–14
			9	1–12
			10	1–12
The student applies mathematical process standards to identify coins in order to recognize the need for monetary transactions. The student is expected to				
K(4)	identify U.S. coins by name, including pennies, nickels, dimes, and quarters.	KB	14	1–5
Algebraic Reasoning				
The student applies mathematical process standards to identify the pattern in the number word list. The student is expected to				
K(5)	recite numbers up to at least 100 by ones and tens beginning with any given number.	KB	12	1–8
Geometry and Measurement				
The student applies mathematical process standards to analyze attributes of two-dimensional shapes and three-dimensional solids to develop generalizations about their properties. The student is expected to:				
K(6)(A)	identify two-dimensional shapes, including circles, triangles, rectangles, and squares as special rectangles;	KA	4	4, 5, 6, 8

Standard	Standard Description	DM	Chapter	Lesson
K(6)(B)	identify three-dimensional solids, including cylinders, cones, spheres, and cubes, in the real world;	KA	4	1, 2
K(6)(C)	identify two-dimensional components of three-dimensional objects;	KA	4	4, 5, 6
K(6)(D)	identify attributes of two-dimensional shapes using informal and formal geometric language interchangeably;	KA	4	4, 5, 6
K(6)(E)	classify and sort a variety of regular and irregular two- and three-dimensional figures regardless of orientation or size; and	KA	4	1, 2, 4, 5, 6
K(6)(F)	create two-dimensional shapes using a variety of materials and drawings.	KA	4	4, 5, 6, 8, 10
The student applies mathematical process standards to directly compare measurable attributes. The student is expected to:				
K(7)(A)	give an example of a measurable attribute of a given object, including length, capacity, and weight; and	KA	5	1, 2, 5, 6, 8
K(7)(B)	compare two objects with a common measurable attribute to see which object has more of/less of the attribute and describe the difference.	KA	5	1, 2, 5, 6, 8
Data Analysis				
The student applies mathematical process standards to collect and organize data to make it useful for interpreting information. The student is expected to:				
K(8)(A)	collect, sort, and organize data into two or three categories;	KA	2	10
			4	11
K(8)(B)	use data to create real-object and picture graphs; and	KA	2	10
K(8)(C)	draw conclusions from real-object and picture graphs.	KA	4	11

Grade 1

Standard	Standard Description	DM	Chapter	Lesson
Numbers and Operations				
The student applies mathematical process standards to represent and compare whole numbers, the relative position and magnitude of whole numbers, and relationships within the numeration system related to place value. The student is expected to:				
1(2)(A)	recognize instantly the quantity of structured arrangements;	1A	1	1
1(2)(B)	use concrete and pictorial models to compose and decompose numbers up to 120 in more than one way as so many hundreds, so many tens, and so many ones;	1A	5	1
		1B	12	1, 2
			16	1, 2
1(2)(C)	use objects, pictures, and expanded and standard forms to represent numbers up to 120; Students count, represent, and order numbers within 100, not 120, in the DM textbook. The DM Teacher's Guide has extension only for counting to 120.	1A	5	1
		1B	12	1, 2
			16	1, 2
1(2)(D)	generate a number that is greater than or less than a given whole number up to 120;	1A	5	3
		1B	12	3
			16	3
1(2)(E)	use place value to compare whole numbers up to 120 using comparative language;	1A	5	4
		1B	12	4
			16	4
1(2)(F)	order whole numbers up to 120 using place value and open number lines; and Number lines are not used in DM 1, but a 100-chart is used.	1A	5	4
		1B	12	4
			16	4
1(2)(G)	represent the comparison of two numbers to 100 using the symbols >, <, or =.	2A	1	3

Standard	Standard Description	DM	Chapter	Lesson
The student applies mathematical process standards to develop and use strategies for whole number addition and subtraction computations in order to solve problems. The student is expected to:				
1(3)(A)	use concrete and pictorial models to determine the sum of a multiple of 10 and a one-digit number in problems up to 99;	1B	12	1
			16	1
1(3)(B)	use objects and pictorial models to solve word problems involving joining, separating, and comparing sets within 20 and unknowns as any one of the terms in the problem such as 2 + 4 = [ ]; 3 + [ ] = 7; and 5 = [ ] – 3;	1A	3	1–5
			4	1–4, 7
			6	1–4
			7	1–4
		1B	11	1
1(3)(C)†	compose 10 with two or more addends with and without concrete objects;	1A	2	5, 6
1(3)(D)	apply basic fact strategies to add and subtract within 20, including making 10 and decomposing a number leading to a 10;	1A	3	1–5
			4	1–4, 7
			6	1–4
			7	1–4
1(3)(E)	explain strategies used to solve addition and subtraction problems up to 20 using spoken words, objects, pictorial models, and number sentences; and	1A	3	1–4
			4	1–4, 7
			6	1–4
			7	1–4
1(3)(F)	generate and solve problem situations when given a number sentence involving addition or subtraction of numbers within 20.	1A	3	6
			4	5, 6, 8
			6	4
		1B	11	2
The student applies mathematical process standards to identify coins, their values, and the relationships among them in order to recognize the need for monetary transactions. The student is expected to:				
1(4)(A)	identify U.S. coins, including pennies, nickels, dimes, and quarters, by value and describe the relationships among them;	1B	19	1, 2
1(4)(B)	write a number with the cent symbol to describe the value of a coin; and	1B	19	1, 2

Standard	Standard Description	DM	Chapter	Lesson
1(4)(C)	use relationships to count by twos, fives, and tens to determine the value of a collection of pennies, nickels, and/or dimes.	1B	19	1, 2
Algebraic Reasoning				
Algebraic reasoning. The student applies mathematical process standards to identify and apply number patterns within properties of numbers and operations in order to describe relationships. The student is expected to:				
1(5)(A)	recite numbers forward and backward from any given number between 1 and 120; Students work with numbers only within 100, not 120, in DM 1.	1B	12	3
			16	3
1(5)(B)	skip count by twos, fives, and tens to determine the total number of objects up to 120 in a set; Students learned to count by fives in DM K; in DM 1 it is covered in the context of counting nickels and telling time to the 5-minute mark. Counting by twos is not covered in DM 1.	1B	12	3
			16	3
			18	3
			19	1
1(5)(C)	use relationships to determine the number that is 10 more and 10 less than a given number up to 120;	1B	12	3
			16	3
1(5)(D)	represent word problems involving addition and subtraction of whole numbers up to 20 using concrete and pictorial models and number sentences;	1A	3	1–6
			4	1–7
			6	1–4
			7	1–4
1(5)(E)	understand that the equal sign represents a relationship where expressions on each side of the equal sign represent the same value(s);	1A	3	1–5, 8
			4	1, 6, 10
			6	1, 2, 5
			7	2, 6
1(5)(F)	determine the unknown whole number in an addition or subtraction equation when the unknown may be any one of the three or four terms in the equation; and	1A	3	1–6
			4	1–7
			6	1–4
			7	1–4

Standard	Standard Description	DM	Chapter	Lesson
1(5)(G)	apply properties of operations to add and subtract two or three numbers.	1A	3	1–5
			4	1–4, 7
			6	1–4
			7	1–4
Geometry and Measurement				
The student applies mathematical process standards to analyze attributes of two-dimensional shapes and three-dimensional solids to develop generalizations about their properties. The student is expected to:				
1(6)(A)	classify and sort regular and irregular two-dimensional shapes based on attributes using informal geometric language;	1A	8	1, 2
1(6)(B)	distinguish between attributes that define a two-dimensional or three-dimensional figure and attributes that do not define the shape;	1A	8	1, 2
1(6)(C)	create two-dimensional figures, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons;	1A	8	1, 2
1(6)(D)‡	identify two-dimensional shapes, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons and describe their attributes using formal geometric language; Rhombuses and hexagons are not defined in DM 1.	1A	8	1, 2
1(6)(E)	identify three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes), and triangular prisms, and describe their attributes using formal geometric language; Triangular prisms are not named in DM 1. Rectangular prisms are called cuboids.	1A	8	1

Standard	Standard Description	DM	Chapter	Lesson
1(6)(F)	compose two-dimensional shapes by joining two, three, or four figures to produce a target shape in more than one way if possible;	1A	8	3
1(6)(G)	partition two-dimensional figures into two and four fair shares or equal parts and describe the parts using words; and	1B	15	1, 2
1(6)(H)	identify examples and non-examples of halves and fourths.	1B	15	1, 2
The student applies mathematical process standards to select and use units to describe length and time. The student is expected to:				
1(7)(A)	use measuring tools to measure the length of objects to reinforce the continuous nature of linear measurement;	1B	10	2, 3
1(7)(B)	illustrate that the length of an object is the number of same-size units of length that, when laid end-to-end with no gaps or overlaps, reach from one end of the object to the other;	1B	10	2, 3
1(7)(C)	measure the same object/distance with units of two different lengths and describe how and why the measurements differ;	1B	10	3
1(7)(D)	describe a length to the nearest whole unit using a number and a unit; and	1B	10	3
1(7)(E)	tell time to the hour and half hour using analog and digital clocks.	1B	18	1, 2
Data Analysis				
The student applies mathematical process standards to organize data to make it useful for interpreting information and solving problems. The student is expected to:				
1(8)(A)	collect, sort, and organize data in up to three categories using models/ representations such as tally marks or T-charts; Students organize data in more than three categories in DM 1. Tally charts are not covered in DM 1.	1B	11	3
		2B	14	1, 2

Standard	Standard Description	DM	Chapter	Lesson
1(8)(B)	use data to create picture and bar-type graphs; and	1B	11	3
		2B	14	1, 2
1(8)(C)	draw conclusions and generate and answer questions using information from picture and bar-type graphs.	1B	11	3
		2B	14	1, 2

Grade 2

Standard	Standard Description	DM	Chapter	Lesson
Number and Operations				
The student applies mathematical process standards to understand how to represent and compare whole numbers, the relative position and magnitude of whole numbers, and relationships within the numeration system related to place value. The student is expected to:				
2(2)(A)	use concrete and pictorial models to compose and decompose numbers up to 1,200 in more than one way as a sum of so many thousands, hundreds, tens, and ones; DM 2 covers numbers to 1,000, not 1,200.	2A	1	4, 5
2(2)(B)	use standard, word, and expanded forms to represent numbers up to 1,200;	2A	1	4, 5
2(2)(C)	generate a number that is greater than or less than a given whole number up to 1,200;	2A	1	6
2(2)(D)	use place value to compare and order whole numbers up to 1,200 using comparative language, numbers, and symbols (>, <, or =);	2A	1	6
2(2)(E)	locate the position of a given whole number on an open number line; and	3A	1	5
2(2)(F)	name the whole number that corresponds to a specific point on a number line.	3A	1	5
The student applies mathematical process standards to recognize and represent fractional units and communicates how they are used to name parts of a whole. The student is expected to:				
2(3)(A)	partition objects into equal parts and name the parts, including halves, fourths, and eighths, using words; Fractions in DM 2 include all fractions to twelfths, not just halves, fourths, and eighths.	2B	11	1, 2, 3

Standard	Standard Description	DM	Chapter	Lesson
2(3)(B)	explain that the more fractional parts used to make a whole, the smaller the part; and the fewer the fractional parts, the larger the part;	2B	11	1, 2, 3
2(3)(C)	use concrete models to count fractional parts beyond one whole using words and recognize how many parts it takes to equal one whole; and Students count fractional parts to one whole, but not beyond one whole in DM 2.	2B	11	4
		3B	9	2
2(3)(D)	identify examples and non-examples of halves, fourths, and eighths.	2B	11	1–4
The student applies mathematical process standards to develop and use strategies and methods for whole number computations in order to solve addition and subtraction problems with efficiency and accuracy. The student is expected to:				
2(4)(A)	recall basic facts to add and subtract within 20 with automaticity;	1A	6	4
			7	4
2(4)(B)	add up to four two-digit numbers and subtract two-digit numbers using mental strategies and algorithms based on knowledge of place value and properties of operations; Students add up to three three-digit numbers in 2A, but there is an activity in the TG for adding four two-digit numbers.	1B	13	1–7
			17	1–11
		2A	2	1–4
2(4)(C)	solve one-step and multi-step word problems involving addition and subtraction within 1,000 using a variety of strategies based on place value, including algorithms; and	2A	3	1–10
2(4)(D)	generate and solve problem situations for a given mathematical number sentence involving addition and subtraction of whole numbers within 1,000. Students are not asked to create their own problems based on an equation in DM 2.			

Standard	Standard Description	DM	Chapter	Lesson
The student applies mathematical process standards to determine the value of coins in order to solve monetary transactions. The student is expected to:				
2(5)(A)	determine the value of a collection of coins up to one dollar; and	2B	10	1
2(5)(B)	use the cent symbol, dollar sign, and the decimal point to name the value of a collection of coins.	2B	10	2
The student applies mathematical process standards to connect repeated addition and subtraction to multiplication and division situations that involve equal groupings and shares. The student is expected to:				
2(6)(A)	model, create, and describe contextual multiplication situations in which equivalent sets of concrete objects are joined; and	1B	14	1
		2A	6	1, 2
2(6)(B)	model, create, and describe contextual division situations in which a set of concrete objects is separated into equivalent sets.	1B	14	2, 3
		2A	6	4, 5
Algebraic Reasoning				
The student applies mathematical process standards to identify and apply number patterns within properties of numbers and operations in order to describe relationships. The student is expected to:				
2(7)(A)	determine whether a number up to 40 is even or odd using pairings of objects to represent the number; Odd and even numbers are not taught in DM until students divide numbers past 20 by 2.	3B	4	6
2(7)(B)	use an understanding of place value to determine the number that is 10 or 100 more or less than a given number up to 1,200; and Place value concepts in DM 2 cover numbers through 1,000, not 1,200.	2A	1	2, 7
2(7)(C)	represent and solve addition and subtraction word problems where unknowns may be any one of the terms in the problem.	2A	2	3

Standard	Standard Description	DM	Chapter	Lesson
Geometry and Measurement				
The student applies mathematical process standards to analyze attributes of two-dimensional shapes and three-dimensional solids to develop generalizations about their properties. The student is expected to:				
2(8)(A)	create two-dimensional shapes based on given attributes, including number of sides and vertices;	2B	15	1, 2
2(8)(B)	classify and sort three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes as special rectangular prisms), and triangular prisms, based on attributes using formal geometric language; Triangular prisms are not named in DM 2. Rectangular prisms are called cuboids.	2B	15	5
2(8)(C)	classify and sort polygons with 12 or fewer sides according to attributes, including identifying the number of sides and number of vertices;	2B	15	2
2(8)(D)	compose two-dimensional shapes and three-dimensional solids with given properties or attributes; and	1A	8	3
		2B	15	2
2(8)(E)	decompose two-dimensional shapes such as cutting out a square from a rectangle, dividing a shape in half, or partitioning a rectangle into identical triangles and identify the resulting geometric parts.	1A	8	3
		2B	15	2
The student applies mathematical process standards to select and use units to describe length, area, and time. The student is expected to:				
2(9)(A)	find the length of objects using concrete models for standard units of length;	2A	4	1, 3, 5
2(9)(B)	describe the inverse relationship between the size of the unit and the number of units needed to equal the length of an object;	2A	4	1

Standard	Standard Description	DM	Chapter	Lesson
2(9)(C)	represent whole numbers as distances from any given location on a number line; Number lines are rulers only in DM 2.	2A	4	1, 5
2(9)(D)	determine the length of an object to the nearest marked unit using rulers, yardsticks, meter sticks, or measuring tapes;	2A	4	6, 7
2(9)(E)	determine a solution to a problem involving length, including estimating lengths;	2A	4	1–7
2(9)(F)	use concrete models of square units to find the area of a rectangle by covering it with no gaps or overlaps, counting to find the total number of square units, and describing the measurement using a number and the unit; and	3B	13	1, 2
2(9)(G)	read and write time to the nearest one-minute increment using analog and digital clocks and distinguish between a.m. and p.m.	2B	12	1, 2, 3
Data Analysis				
The student applies mathematical process standards to organize data to make it useful for interpreting information and solving problems. The student is expected to:				
2(10)(A)	explain that the length of a bar in a bar graph or the number of pictures in a pictograph represents the number of data points for a given category;	2B	14	1, 2
2(10)(B)	organize a collection of data with up to four categories using pictographs and bar graphs with intervals of one or more;	2B	14	1, 2
2(10)(C)	write and solve one-step word problems involving addition or subtraction using data represented within pictographs and bar graphs with intervals of one; and	2B	14	1, 2
2(10)(D)	draw conclusions and make predictions from information in a graph.	2B	14	1, 2

Grade 3

Standard	Standard Description	DM	Chapter	Lesson
Number and Operations				
The student applies mathematical process standards to represent and compare whole numbers and understand relationships related to place value. The student is expected to:				
3(2)(A)	compose and decompose numbers up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate;	3A	1	1, 2
3(2)(B)	describe the mathematical relationships found in the base-10 place value system through the hundred thousands place;	3A	1	1, 2
3(2)(C)	represent a number on a number line as being between two consecutive multiples of 10; 100; 1,000; or 10,000 and use words to describe relative size of numbers in order to round whole numbers; and	3A	1	5
3(2)(D)	compare and order whole numbers up to 100,000 and represent comparisons using the symbols >, <, or =.	3A	1	2
The student applies mathematical process standards to represent and explain fractional units. The student is expected to:				
3(3)(A)	represent fractions greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 using concrete objects and pictorial models, including strip diagrams and number lines; Fractions in DM 3 are not restricted to only those with denominators of 2, 3, 4, 6, and 8.	2B	11	2, 3
		3B	9	1, 2

Standard	Standard Description	DM	Chapter	Lesson
3(3)(B)	determine the corresponding fraction greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 given a specified point on a number line;	3B	9	2
3(3)(C)	explain that the unit fraction 1/b represents the quantity formed by one part of a whole that has been partitioned into b equal parts where b is a non-zero whole number;	2B	11	3, 4
		3B	9	1, 2
3(3)(D)	compose and decompose a fraction a/b with a numerator greater than zero and less than or equal to b as a sum of parts 1/b;	2B	11	3, 4
		3B	9	1, 2
3(3)(E)	solve problems involving partitioning an object or a set of objects among two or more recipients using pictorial representations of fractions with denominators of 2, 3, 4, 6, and 8; Fractions of a set is covered in DM 4.	4A	8	4, 5
3(3)(F)	represent equivalent fractions with denominators of 2, 3, 4, 6, and 8 using a variety of objects and pictorial models, including number lines;	3B	10	2, 3
3(3)(G)	explain that two fractions are equivalent if and only if they are both represented by the same point on the number line or represent the same portion of a same size whole for an area model; and	3B	10	2, 3
3(3)(H)	compare two fractions having the same numerator or denominator in problems by reasoning about their sizes and justifying the conclusion using symbols, words, objects, and pictorial models.	3B	9	3, 4

Standard	Standard Description	DM	Chapter	Lesson
The student applies mathematical process standards to develop and use strategies and methods for whole number computations in order to solve problems with efficiency and accuracy. The student is expected to:				
3(4)(A)	solve with fluency one-step and two-step problems involving addition and subtraction within 1,000 using strategies based on place value, properties of operations, and the relationship between addition and subtraction;	2A	3	1–10
		3A	2	1–10
3(4)(B)	round to the nearest 10 or 100 or use compatible numbers to estimate solutions to addition and subtraction problems;	3A	1	9, 10
3(4)(C)	determine the value of a collection of coins and bills;	2B	10	2, 3
		3B	15	1
3(4)(D)	determine the total number of objects when equally-sized groups of objects are combined or arranged in arrays up to 10 by 10;	2A	6	1, 2
		3A	4	1, 2
3(4)(E)	represent multiplication facts by using a variety of approaches such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line, and skip counting;	2A	7	1–5, 7
		2B	9	1, 2, 5, 6
		3A	4	1, 2
		3B	8	1, 2–9
3(4)(F)	recall facts to multiply up to 10 by 10 with automaticity and recall the corresponding division facts;	2A	7	2, 5, 8, 9
		2B	9	2, 3, 6, 7
		3A	4	2, 3
		3B	8	2, 6, 7
3(4)(G)	use strategies and algorithms, including the standard algorithm, to multiply a two-digit number by a one-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties;	3A	5	1–5

Standard	Standard Description	DM	Chapter	Lesson
3(4)(H)	determine the number of objects in each group when a set of objects is partitioned into equal shares or a set of objects is shared equally;	2A	6	4, 5
			7	8, 9
		2B	9	3, 7
		3A	4	3, 5
3(4)(I)	determine if a number is even or odd using divisibility rules;	3A	4	6
			6	3
3(4)(J)	determine a quotient using the relationship between multiplication and division; and	2A	6	4, 5
			7	8, 9
		2B	9	3, 7
		3A	4	3
		3B	8	2, 6, 7
3(4)(K)	solve one-step and two-step problems involving multiplication and division within 100 using strategies based on objects; pictorial models, including arrays, area models, and equal groups; properties of operations; or recall of facts.	2A	6	1–7
			7	2, 3, 5–11
		2B	9	1–9
		3A	4	3, 7–10
			5	2, 4,
			6	2–5
Algebraic Reasoning				
The student applies mathematical process standards to analyze and create patterns and relationships. The student is expected to:				
3(5)(A)	represent one- and two-step problems involving addition and subtraction of whole numbers to 1,000 using pictorial models, number lines, and equations;	2A	3	1–10
		3A	2	1–11
3(5)(B)	represent and solve one- and two-step multiplication and division problems within 100 using arrays, strip diagrams, and equations;	2A	6	1–7
			7	2–9, 11
		2B	9	1–9
		3A	4	3, 7–10
			5	2, 4
			6	2–5
3(5)(C)	describe a multiplication expression as a comparison such as 3 x 24 represents 3 times as much as 24;	3A	4	8, 9, 10
			5	6
		3B	8	2, 8, 10

Standard	Standard Description	DM	Chapter	Lesson
3(5)(D)	determine the unknown whole number in a multiplication or division equation relating three whole numbers when the unknown is either a missing factor or product; and	3A	4	3, 4, 10
			6	1
		3B	8	1, 2, 7, 10
3(5)(E)	represent real-world relationships using number pairs in a table and verbal descriptions.	2A	7	1, 4, 7
		2B	9	1, 5
		3B	8	1, 2, 6, 7
Geometry and Measurement				
The student applies mathematical process standards to analyze attributes of two-dimensional geometric figures to develop generalizations about their properties. The student is expected to:				
3(6)(A)	classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language; Triangular prisms are not named in DM 3, and rectangular prisms are called cuboids.	2B	15	2–5
3(6)(B)	use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories; Parallelograms and trapezoids are not named until students learn about parallel lines in DM 4.	3B	12	6
		4B	16	4
3(6)(C)	determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row;	3B	13	1, 2, 3

Standard	Standard Description	DM	Chapter	Lesson
3(6)(D)	decompose composite figures formed by rectangles into non- overlapping rectangles to determine the area of the original figure using the additive property of area; and	3B	13	4
3(6)(E)	decompose two congruent two-dimensional figures into parts with equal areas and express the area of each part as a unit fraction of the whole and recognize that equal shares of identical wholes need not have the same shape.	2B	11	1, 2
The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving customary and metric measurement. The student is expected to:				
3(7)(A)*	represent fractions of halves, fourths, and eighths as distances from zero on a number line; Fractions are not restricted to only halves, fourths, and eighths on a number line in DM 3.	3B	9	2, 3, 4
3(7)(B)	determine the perimeter of a polygon or a missing length when given perimeter and remaining side lengths in problems;	3B	13	6, 7, 9
3(7)(C)	determine the solutions to problems involving addition and subtraction of time intervals in minutes using pictorial models or tools such as a 15-minute event plus a 30-minute event equals 45 minutes;	3B	14	2, 4, 5, 6
3(7)(D)	determine when it is appropriate to use measurements of liquid volume (capacity) or weight; and	2A	5	1–4
		2B	13	1, 2
		3B	11	5, 6
3(7)(E)	determine liquid volume (capacity) or weight using appropriate units and tools.	2A	5	1–4
		2B	13	1, 2
		3B	11	5, 6

Standard	Standard Description	DM	Chapter	Lesson
Data Analysis				
The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. The student is expected to:				
3(7)(A)	summarize a data set with multiple categories using a frequency table, dot plot, pictograph, or bar graph with scaled intervals; and	2B	14	1
		3A	7	1, 2
3(7)(B)	solve one- and two-step problems using categorical data represented with a frequency table, dot plot, pictograph, or bar graph with scaled intervals. Dot plots are not covered until DM 4.	2B	14	1
		3A	7	1, 2
		4A	9	3

Grade 4

Standard	Standard Description	DM	Chapter	Lesson
Number and Operations				
The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to:				
4(2)(A)	interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left;	4A	1	1, 2
4(2)(B)	represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals; Students work with numbers within 1 million in DM 4. They work with numbers to one billion in DM 5.	4A	1	1, 2
		5A	1	1
4(2)(C)	compare and order whole numbers to 1,000,000,000 and represent comparisons using the symbols >, <, or =; Students compare numbers to one million in DM 4.	4A	1	4
4(2)(D)	round whole numbers to a given place value through the hundred thousands place;	4A	1	5, 6
4(2)(E)	represent decimals, including tenths and hundredths, using concrete and visual models and money;	4B	12	1–4
4(2)(F)	compare and order decimals using concrete and visual models to the hundredths;	4B	12	8
4(2)(G)	relate decimals to fractions that name tenths and hundredths; and	4B	12	1–4
4(2)(H)	determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line.	4B	12	1–4

Standard	Standard Description	DM	Chapter	Lesson
The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to:				
4(3)(A)	represent a fraction a/b as a sum of fractions 1/b, where a and b are whole numbers and b > 0, including when a > b;	3B	9	1, 2
4(3)(B)	decompose a fraction in more than one way into a sum of fractions with the same denominator using concrete and pictorial models and recording results with symbolic representations;	3B	9	1, 2
4(3)(C)	determine if two given fractions are equivalent using a variety of methods;	3B	10	1, 2, 3
		4A	6	1
4(3)(D)	compare two fractions with different numerators and different denominators and represent the comparison using the symbols >, =, or <;	3B	10	4, 5
		4A	6	2
4(3)(E)	represent and solve addition and subtraction of fractions with equal denominators using objects and pictorial models that build to the number line and properties of operations;	3B	10	7, 8
		4A	7	1
4(3)(F)	evaluate the reasonableness of sums and differences of fractions using benchmark fractions 0, 1/4, 1/2, 3/4, and 1, referring to the same whole; and	3B	10	7, 8
		4A	7	1
4(3)(G)	represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.	4B	12	1–4
The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to:				
4(4)(A)	add and subtract whole numbers and decimals to the hundredths place using the standard algorithm;	4A	2	1–4
		4B	13	1–7
4(4)(B)	determine products of a number and 10 or 100 using properties of operations and place value understandings;	3A	1	2

Standard	Standard Description	DM	Chapter	Lesson
4(4)(C)	represent the product of 2 two-digit numbers using arrays, area models, or equations, including perfect squares through 15 by 15;	4A	4	4, 5, 6
4(4)(D)	use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties;	3A	5	1–8
		3B	8	3, 8
		4A	4	2, 3, 5, 6
4(4)(E)	represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays, area models, or equations;	3A	6	2–8
		4A	5	2, 3
4(4)(F)	use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor;	3A	6	2–8
		3B	8	4, 9
		4A	4	2, 3
4(4)(G)	round to the nearest 10, 100, or 1,000 or use compatible numbers to estimate solutions involving whole numbers; and	4A	2	1, 2
			4	2, 3, 6, 7
			5	2, 3
4(4)(H)	solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders.	4A	4	1–8
			5	1–6
Algebraic Reasoning				
The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to:				
4(5)(A)	represent multi-step problems involving the four operations with whole numbers using strip diagrams and equations with a letter standing for the unknown quantity; The DM 4 textbook uses blanks or the term "unit," not letters, to represent the unknown.	4A	2	2, 5, 6
			4	1–8
			5	1–6

Standard	Standard Description	DM	Chapter	Lesson
4(5)(B)	represent problems using an input-output table and numerical expressions to generate a number pattern that follows a given rule representing the relationship of the values in the resulting sequence and their position in the sequence;			
4(5)(C)	use models to determine the formulas for the perimeter of a rectangle (l + w + l + w or 2l + 2w), including the special form for perimeter of a square (4s) and the area of a rectangle (l x w); and	3B	13	6, 7, 8
		4B	11	4, 5
4(5)(D)	solve problems related to perimeter and area of rectangles where dimensions are whole numbers.	3B	13	6, 7, 8
		4B	11	4, 5
Geometry and Measurement				
Geometry and measurement. The student applies mathematical process standards to analyze geometric attributes in order to develop generalizations about their properties. The student is expected to:				
4(6)(A)‡	identify points, lines, line segments, rays, angles, and perpendicular and parallel lines; Lines, line segments, and rays are not named in DM, but the Teacher's Guide does include definitions that students in elementary grades can use, should instructors wish to add that. Angles are introduced in DM 3.	3A	12	2, 3
		4B	15	1
			16	1, 2
4(6)(B)	identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure;	4B	16	5
4(6)(C)	apply knowledge of right angles to identify acute, right, and obtuse triangles; and	4B	15	1
4(6)(D)	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.	3B	12	4, 5, 6
		4B	16	4, 5

Standard	Standard Description	DM	Chapter	Lesson
The student applies mathematical process standards to solve problems involving angles less than or equal to 180 degrees. The student is expected to:				
4(7)(A)	illustrate the measure of an angle as the part of a circle whose center is at the vertex of the angle that is "cut out" by the rays of the angle. Angle measures are limited to whole numbers;	4B	15	1, 2
4(7)(B)	illustrate degrees as the units used to measure an angle, where 1/360 of any circle is one degree and an angle that "cuts" n/360 out of any circle whose center is at the angle's vertex has a measure of n degrees. Angle measures are limited to whole numbers;	4B	15	2
4(7)(C)	determine the approximate measures of angles in degrees to the nearest whole number using a protractor;	4B	15	2
4(7)(D)	draw an angle with a given measure; and	4B	15	3
4(7)(E)	determine the measure of an unknown angle formed by two non-overlapping adjacent angles given one or both angle measures.	4B	15	4
The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement. The student is expected to:				
4(8)(A)	identify relative sizes of measurement units within the customary and metric systems; DM 3B covers measurement units and conversions in the metric system.	3B	10	1–7
		4B	10	1–5
4(8)(B)	convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table; and	3B	10	1–7
		4B	10	1–5

Standard	Standard Description	DM	Chapter	Lesson
4(8)(C)	solve problems that deal with measurements of length, intervals of time, liquid volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate.	4B	10	1–5
			13	8
Data Analysis				
The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. The student is expected to:				
4(9)(A)	represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions; and DM 4 does not include stem-and-leaf plots.	4A	9	1–4
4(9)(B	solve one- and two-step problems using data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem- and-leaf plot.	4A	9	1–4

Grade 5

Standard	Standard Description	DM	Chapter	Lesson
Number and Operations				
The student applies mathematical process standards to represent, compare, and order positive rational numbers and understand relationships as related to place value. The student is expected to:				
5(2)(A)	represent the value of the digit in decimals through the thousandths using expanded notation and numerals;	5B	9	1, 2
5(2)(B)	compare and order two decimals to thousandths and represent comparisons using the symbols >, <, or =; and	5B	9	3
5(2)(C)	round decimals to tenths or hundredths.	5B	9	4
The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to:				
5(3)(A)	estimate to determine solutions to mathematical and real-world problems involving addition, subtraction, multiplication, or division;	5A	3	1–8
5(2)(B)	multiply with fluency a three-digit number by a two-digit number using the standard algorithm;	4A	4	7
		5A	3	2
5(2)(C)	solve with proficiency for quotients of up to a four-digit dividend by a two-digit divisor using strategies and the standard algorithm;	5A	3	4–8
5(2)(D)	represent multiplication of decimals with products to the hundredths using objects and pictorial models, including area models;	4B	14	1, 2, 3
		5B	9	6
		5B	10	3, 4
5(2)(E)	solve for products of decimals to the hundredths, including situations involving money, using strategies based on place-value understandings, properties of operations, and the relationship to the multiplication of whole numbers;	4B	14	1, 2, 3
		5B	10	3, 4

Standard	Standard Description	DM	Chapter	Lesson
5(2)(F)	represent quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using objects and pictorial models, including area models;	4B	14	5–8
		5B	9	4
		5B	10	6, 7
5(2)(G)	solve for quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using strategies and algorithms, including the standard algorithm;	4B	14	5–8
		5B	10	6, 7
5(2)(H)	represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operations;	4A	7	2–6
		5A	4	2–8
5(2)(I)	represent and solve multiplication of a whole number and a fraction that refers to the same whole using objects and pictorial models, including area models;	4A	8	1–7
		5A	5	1, 2
			7	2
5(2)(J)	represent division of a unit fraction by a whole number and the division of a whole number by a unit fraction such as 1/3 ÷ 7 and 7 ÷ 1/3 using objects and pictorial models, including area models;	5A	6	1
5(2)(K)	add and subtract positive rational numbers fluently; and	5A	4	2–9
5(2)(L)	divide whole numbers by unit fractions and unit fractions by whole numbers.	5A	6	1, 4
Algebraic Reasoning				
The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to:				
5(4)(A)	identify prime and composite numbers;	4A	3	4
5(4)(B)	represent and solve multi-step problems involving the four operations with whole numbers using equations with a letter standing for the unknown quantity; Letters for unknowns are not used in the DM textbook, but the Teacher's Guide has	5A	2	5, 6
			3	2, 3, 9

Standard	Standard Description	DM	Chapter	Lesson
	suggestions on how to include them. Students do solve for a unit using algebraic strategies.			
5(4)(C)	generate a numerical pattern when given a rule in the form y = ax or y = x + a and graph;	5B	12	5
5(4)(D)	recognize the difference between additive and multiplicative numerical patterns given in a table or graph; This is not covered in DM 5.			
5(4)(E)	describe the meaning of parentheses and brackets in a numeric expression;	5A	2	1
5(4)(F)	simplify numerical expressions that do not involve exponents, including up to two levels of grouping;	5A	2	2, 3
5(4)(G)	use concrete objects and pictorial models to develop the formulas for the volume of a rectangular prism, including the special form for a cube (V = l x w x h, V = s x s x s, and V = Bh); and	5A	8	1, 2
5(4)(H)	represent and solve problems related to perimeter and/or area and related to volume.	4A	11	1–6
		5A	7	4, 5, 6
			8	2–8
Geometry and Measurement				
The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to				
5(5)	classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.	4B	16	4
		5B	11	3, 6
The student applies mathematical process standards to understand, recognize, and quantify volume. The student is expected to:				
5(6)(A)	recognize a cube with side length of one unit as a unit cube having one cubic unit of volume and the volume of a three-dimensional figure as the number of unit cubes (n cubic units) needed to fill it	5A	8	1

Standard	Standard Description	DM	Chapter	Lesson
	with no gaps or overlaps if possible; and			
5(6)(B)	determine the volume of a rectangular prism with whole number side lengths in problems related to the number of layers times the number of unit cubes in the area of the base.	5A	8	2
The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving measurement. The student is expected to				
5(7)	solve problems by calculating conversions within a measurement system, customary or metric.	4B	10	1–8
		5A	7	1
The student applies mathematical process standards to identify locations on a coordinate plane. The student is expected to:				
5(8)(A)	describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point (0, 0); the x-coordinate, the first number in an ordered pair, indicates movement parallel to the x-axis starting at the origin; and the y-coordinate, the second number, indicates movement parallel to the y-axis starting at the origin;	5B	12	4
5(8)(B)	describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane; and	5B	12	4
5(8)(C)	graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table.	5B	12	4, 5, 6

Standard	Standard Description	DM	Chapter	Lesson
Data Analysis				
The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. The student is expected to:				
5(8)(A)	represent categorical data with bar graphs or frequency tables and numerical data, including data sets of measurements in fractions or decimals, with dot plots or stem-and-leaf plots; DM 5 only covers line plots and straight-line graphs. DM 3 covers bar graphs. DM 4 includes line graphs and bar graphs. Stem-and-leaf plots and scatterplots are not covered in DM 5.	3A	7	1, 2
		4A	9	1, 2, 3
		5B	12	1, 2, 3
5(8)(B)	represent discrete paired data on a scatterplot; and Scatterplots are not covered in DM 5.			
5(8)(C)	solve one- and two-step problems using data from a frequency table, dot plot, bar graph, stem-and-leaf plot, or scatterplot.	3A	7	1, 2
		4A	9	1, 2, 3
		5B	12	1, 2, 3