## NUMBER SENSE & OPERATIONS (NSO)

| Kindergarten | | Grade 1 | | Grade 2 | | Grade 3 | | Grade 4 | | Grade 5 | |
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| **MA.K.NSO.1** Develop an understanding for counting using objects in a set. | MA.K.NSO.1.1 Given a group of up to 20 objects, count the number of objects in that group and represent the number of objects with a written numeral. State the number of objects in a rearrangement of that group without recounting.<br>MA.K.NSO.1.2 Given a number from 0 to 20, count out that many objects.<br>MA.K.NSO.1.3 Identify positions of objects within a sequence using the words "first," "second," "third," "fourth" or "fifth."<br>MA.K.NSO.1.4 Compare the number of objects from 0 to 20 in two groups using the terms less than, equal to or greater than. | **MA.1.NSO.1** Extend counting sequences and understand the place value of two-digit numbers. | MA.1.NSO.1.1 Starting at a given number, count forward and backwards within 120 by ones. Skip count by 2s to 20 and by 5s to 100.<br>MA.1.NSO.1.2 Read numbers from 0 to 100 written in standard form, expanded form and word form. Write numbers from 0 to 100 using standard form and expanded form.<br>MA.1.NSO.1.3 Compose and decompose two-digit numbers in multiple ways using tens and ones. Demonstrate each composition or decomposition with objects, drawings and expressions or equations.<br>MA.1.NSO.1.4 Plot, order and compare whole numbers up to 100. | **MA.2.NSO.1** Understand the place value of three-digit numbers. | MA.2.NSO.1.1 Read and write numbers from 0 to 1,000 using standard form, expanded form and word form.<br>MA.2.NSO.1.2 Compose and decompose three-digit numbers in multiple ways using hundreds, tens and ones. Demonstrate each composition or decomposition with objects, drawings and expressions or equations.<br>MA.2.NSO.1.3 Plot, order and compare whole numbers up to 1,000.<br>MA.2.NSO.1.4 Round whole numbers from 0 to 100 to the nearest 10. | **MA.3.NSO.1** Understand the place value of four-digit numbers. | MA.3.NSO.1.1 Read and write numbers from 0 to 10,000 using standard form, expanded form and word form.<br>MA.3.NSO.1.2 Compose and decompose four-digit numbers in multiple ways using thousands, hundreds, tens and ones. Demonstrate each composition or decomposition using objects, drawings and expressions or equations.<br>MA.3.NSO.1.3 Plot, order and compare whole numbers up to 10,000.<br>MA.3.NSO.1.4 Round whole numbers from 0 to 1,000 to the nearest 10 or 100. | **MA.4.NSO.1** Understand place value for multi-digit numbers. | MA.4.NSO.1.1 Express how the value of a digit in a multi-digit whole number changes if the digit moves one place to the left or right.<br>MA.4.NSO.1.2 Read and write multi-digit whole numbers from 0 to 1,000,000 using standard form, expanded form and word form.<br>MA.4.NSO.1.3 Plot, order and compare multi-digit whole numbers up to 1,000,000.<br>MA.4.NSO.1.4 Round whole numbers from 0 to 10,000 to the nearest 10, 100 or 1,000.<br>MA.4.NSO.1.5 Plot, order and compare decimals up to the hundredths. | **MA.5.NSO.1** Understand the place value of multi-digit numbers with decimals to the thousandths place. | MA.5.NSO.1.1 Express how the value of a digit in a multi-digit number with decimals to the thousandths changes if the digit moves one or more places to the left or right.<br>MA.5.NSO.1.2 Read and write multi-digit numbers with decimals to the thousandths using standard form, word form and expanded form.<br>MA.5.NSO.1.3 Compose and decompose multi-digit numbers with decimals to the thousandths in multiple ways using the values of the digits in each place. Demonstrate the compositions or decompositions using objects, drawings and expressions or equations.<br>MA.5.NSO.1.4 Plot, order and compare multi-digit numbers with decimals up to the thousandths.<br>MA.5.NSO.1.5 Round multi-digit numbers with decimals to the thousandths to the nearest hundredth, tenth or whole number. |
| **MA.K.NSO.2** Recite number names sequentially within 100 and develop an understanding for place value. | MA.K.NSO.2.1 Recite the number names to 100 by ones and by tens. Starting at a given number, count forward within 100 and backward within 20.<br>MA.K.NSO.2.2 Represent whole numbers from 10 to 20, using a unit of ten and a group of ones, with objects, drawings and expressions or equations.<br>MA.K.NSO.2.3 Locate, order and compare numbers from 0 to 20 using the number line and terms less than, equal to or greater than. | **MA.1.NSO.2** Develop an understanding of addition and subtraction operations with one- and two-digit numbers. | MA.1.NSO.2.1 Recall addition facts with sums to 10 and related subtraction facts with automaticity.<br>MA.1.NSO.2.2 Add two whole numbers with sums from 0 to 20, and subtract using related facts with procedural reliability.<br>MA.1.NSO.2.3 Identify the number that is one more, one less, ten more and ten less than a given two-digit number.<br>MA.1.NSO.2.4 Explore the addition of a two-digit number and a one-digit number with sums to 100.<br>MA.1.NSO.2.5 Explore subtraction of a one-digit number from a two-digit number. | **MA.2.NSO.2** Add and subtract two- and three-digit whole numbers. | MA.2.NSO.2.1 Recall addition facts with sums to 20 and related subtraction facts with automaticity.<br>MA.2.NSO.2.2 Identify the number that is ten more, ten less, one hundred more and one hundred less than a given three-digit number.<br>MA.2.NSO.2.3 Add two whole numbers with sums up to 100 with procedural reliability. Subtract a whole number from a whole number, each no larger than 100, with procedural reliability.<br>MA.2.NSO.2.4 Explore the addition of two whole numbers with sums up to 1,000. Explore the subtraction of a whole number from a whole number, each no larger than 1,000. | **MA.3.NSO.2** Add and subtract multi-digit whole numbers. Build an understanding of multiplication and division operations. | MA.3.NSO.2.1 Add and subtract multi-digit whole numbers including using a standard algorithm with procedural fluency.<br>MA.3.NSO.2.2 Explore multiplication of two whole numbers with products from 0 to 144, and related division facts.<br>MA.3.NSO.2.3 Multiply a one-digit whole number by a multiple of 10, up to 90, or a multiple of 100, up to 900, with procedural reliability.<br>MA.3.NSO.2.4 Multiply two whole numbers from 0 to 12 and divide using related facts with procedural reliability. | **MA.4.NSO.2** Build an understanding of operations with multi-digit numbers including decimals. | MA.4.NSO.2.1 Recall multiplication facts with factors up to 12 and related division facts with automaticity.<br>MA.4.NSO.2.2 Multiply two whole numbers, up to three digits by up to two digits, with procedural reliability.<br>MA.4.NSO.2.3 Multiply two whole numbers, each up to two digits, including using a standard algorithm with procedural fluency.<br>MA.4.NSO.2.4 Divide a whole number up to four digits by a one-digit whole number with procedural reliability. Represent remainders as fractional parts of the divisor.<br>MA.4.NSO.2.5 Explore the multiplication and division of multi-digit whole numbers using estimation, rounding and place value.<br>MA.4.NSO.2.6 Identify the number that is one-tenth more, one-tenth less, one-hundredth more and one-hundredth less than a given number.<br>MA.4.NSO.2.7 Explore the addition and subtraction of multi-digit numbers with decimals to the hundredths. | **MA.5.NSO.2** Add, subtract, multiply and divide multi-digit numbers. | MA.5.NSO.2.1 Multiply multi-digit whole numbers including using a standard algorithm with procedural fluency.<br>MA.5.NSO.2.2 Divide multi-digit whole numbers, up to five digits by two digits, including using a standard algorithm with procedural fluency. Represent remainders as fractions.<br>MA.5.NSO.2.3 Add and subtract multi-digit numbers with decimals to the thousandths, including using a standard algorithm with procedural fluency.<br>MA.5.NSO.2.4 Explore the multiplication and division of multi-digit numbers with decimals to the hundredths using estimation, rounding and place value.<br>MA.5.NSO.2.5 Multiply and divide a multi-digit number with decimals to the tenths by one-tenth and one-hundredth with procedural reliability. |
| **MA.K.NSO.3** Develop an understanding of addition and subtraction operations with one-digit whole numbers. | MA.K.NSO.3.1 Explore addition of two whole numbers from 0 to 10, and related subtraction facts.<br>MA.K.NSO.3.2 Add two one-digit whole numbers with sums from 0 to 10 and subtract using related facts with procedural reliability. | | | | | | | | | | |

| | Kindergarten | Grade 1 | | Grade 2 | | Grade 3 | | Grade 4 | | Grade 5 | |
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| **FRACTIONS (FR)** | | **MA.1.FR.1** Develop an understanding of fractions by partitioning shapes into halves and fourths. | MA.1.FR.1.1 Partition circles and rectangles into two and four equal-sized parts. Name the parts of the whole using appropriate language including halves or fourths. | **MA.2.FR.1** Develop an understanding of fractions. | MA.2.FR.1.1 Partition circles and rectangles into two, three or four equal-sized parts. Name the parts using appropriate language, and describe the whole as two halves, three thirds or four fourths.<br><br>MA.2.FR.1.2 Partition rectangles into two, three or four equal-sized parts in two different ways showing that equal-sized parts of the same whole may have different shapes. | **MA.3.FR.1** Understand fractions as numbers and represent fractions. | MA.3.FR.1.1 Represent and interpret unit fractions in the form 1/n as the quantity formed by one part when a whole is partitioned into n equal parts.<br><br>MA.3.FR.1.2 Represent and interpret fractions, including fractions greater than one, in the form of m/n as multiples of a unit fraction.<br><br>MA.3.FR.1.3 Read and write fractions, including fractions greater than one, using standard form, numeral-word form and word form. | **MA.4.FR.1** Develop an understanding of the relationship between different fractions and the relationship between fractions and decimals. | MA.4.FR.1.1 Model and express a fraction, including mixed numbers and fractions greater than one, with the denominator 10 as an equivalent fraction with the denominator 100.<br><br>MA.4.FR.1.2 Use decimal notation to represent fractions with denominators of 10 or 100, including mixed numbers and fractions greater than 1, and use fractional notation with denominators of 10 or 100 to represent decimals.<br><br>MA.4.FR.1.3 Identify and generate equivalent fractions, including fractions greater than one. Describe how the numerator and denominator are affected when the equivalent fraction is created.<br><br>MA.4.FR.1.4 Plot, order and compare fractions, including mixed numbers and fractions greater than one, with different numerators and different denominators. | **MA.5.FR.1** Interpret a fraction as an answer to a division problem. | MA.5.FR.1.1 Given a mathematical or real-world problem, represent the division of two whole numbers as a fraction. |
| | | | | | | **MA.3.FR.2** Order and compare fractions and identify equivalent fractions. | MA.3.FR.2.1 Plot, order and compare fractional numbers with the same numerator or the same denominator.<br><br>MA.3.FR.2.2 Identify equivalent fractions and explain why they are equivalent. | **MA.4.FR.2** Build a foundation of addition, subtraction and multiplication operations with fractions. | MA.4.FR.2.1 Decompose a fraction, including mixed numbers and fractions greater than one, into a sum of fractions with the same denominator in multiple ways. Demonstrate each decomposition with objects, drawings and equations.<br><br>MA.4.FR.2.2 Add and subtract fractions with like denominators, including mixed numbers and fractions greater than one, with procedural reliability.<br><br>MA.4.FR.2.3 Explore the addition of a fraction with denominator of 10 to a fraction with denominator of 100 using equivalent fractions.<br><br>MA.4.FR.2.4 Extend previous understanding of multiplication to explore the multiplication of a fraction by a whole number or a whole number by a fraction. | **MA.5.FR.2** Perform operations with fractions. | MA.5.FR.2.1 Add and subtract fractions with unlike denominators, including mixed numbers and fractions greater than 1, with procedural reliability.<br><br>MA.5.FR.2.2 Extend previous understanding of multiplication to multiply a fraction by a fraction, including mixed numbers and fractions greater than 1, with procedural reliability.<br><br>MA.5.FR.2.3 When multiplying a given number by a fraction less than 1 or a fraction greater than 1, predict and explain the relative size of the product to the given number without calculating.<br><br>MA.5.FR.2.4 Extend previous understanding of division to explore the division of a unit fraction by a whole number and a whole number by a unit fraction. |

## ALGEBRAIC REASONING (AR)

| Kindergarten | | Grade 1 | | Grade 2 | | Grade 3 | | Grade 4 | | Grade 5 | |
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| **MA.K.AR.1** Represent and solve addition problems with sums between 0 and 10 and subtraction problems using related facts. | MA.K.AR.1.1 For any number from 1 to 9, find the number that makes 10 when added to the given number.<br>MA.K.AR.1.2 Given a number from 0 to 10, find the different ways it can be represented as the sum of two numbers.<br>MA.K.AR.1.3 Solve addition and subtraction real-world problems using objects, drawings or equations to represent the problem. | **MA.1.AR.1** Solve addition problems with sums between 0 and 20 and subtraction problems using related facts. | MA.1.AR.1.1 Apply properties of addition to find a sum of three or more whole numbers.<br>MA.1.AR.1.2 Solve addition and subtraction real-world problems using objects, drawings or equations to represent the problem. | **MA.2.AR.1** Solve addition problems with sums between 0 and 100 and related subtraction problems. | MA.2.AR.1.1 Solve one- and two-step addition and subtraction real-world problems. | **MA.3.AR.1** Solve multiplication and division problems. | MA.3.AR.2.1 Apply the distributive property to multiply a one-digit number and two-digit number. Apply properties of multiplication to find a product of one-digit whole numbers.<br>MA.3.AR.1.2 Solve one- and two-step real-world problems involving any of four operations with whole numbers. | **MA.4.AR.1** Represent and solve problems involving the four operations with whole numbers and fractions. | MA.4.AR.1.1 Solve real-world problems involving multiplication and division of whole numbers including problems in which remainders must be interpreted within the context.<br>MA.4.AR.1.2 Solve real-world problems involving addition and subtraction of fractions with like denominators, including mixed numbers and fractions greater than one.<br>MA.4.AR.1.3 Solve real-world problems involving multiplication of a fraction by a whole number or a whole number by a fraction. | **MA.5.AR.1** Solve problems involving the four operations with whole numbers and fractions. | MA.5.AR.1.1 Solve multi-step real-world problems involving any combination of the four operations with whole numbers, including problems in which remainders must be interpreted within the context.<br>MA.5.AR.1.2 Solve real-world problems involving the addition, subtraction or multiplication of fractions, including mixed numbers and fractions greater than 1.<br>MA.5.AR.1.3 Solve real-world problems involving division of a unit fraction by a whole number and a whole number by a unit fraction. |
| **MA.K.AR.2** Develop an understanding of the equal sign. | MA.K.AR.2.1 Explain why addition or subtraction equations are true using objects or drawings. | **MA.1.AR.2** Develop an understanding of the relationship between addition and subtraction. | MA.1.AR.2.1 Restate a subtraction problem as a missing addend problem using the relationship between addition and subtraction.<br>MA.1.AR.2.2 Determine and explain if equations involving addition or subtraction are true or false.<br>MA.1.AR.2.3 Determine the unknown whole number in an addition or subtraction equation, relating three whole numbers, with the unknown in any position. | **MA.2.AR.2** Demonstrate an understanding of equality and addition and subtraction. | MA.2.AR.2.1 Determine and explain whether equations involving addition and subtraction are true or false.<br>MA.2.AR.2.2 Determine the unknown whole number in an addition or subtraction equation, relating three or four whole numbers, with the unknown in any position. | **MA.3.AR.2** Develop an understanding of equality and multiplication and division. | MA.3.AR.2.1 Restate a division problem as a missing factor problem using the relationship between multiplication and division.<br>MA.3.AR.2.2 Determine and explain whether an equation involving multiplication or division is true or false.<br>MA.3.AR.2.3 Determine the unknown whole number in a multiplication or division equation, relating three whole numbers, with the unknown in any position. | **MA.4.AR.2** Demonstrate an understanding of equality and operations with whole numbers. | MA.4.AR.2.1 Determine and explain whether an equation involving any of the four operations with whole numbers is true or false.<br>MA.4.AR.2.2 Given a mathematical or real-world context, write an equation involving multiplication or division to determine the unknown whole number with the unknown in any position. | **MA.5.AR.2** Demonstrate an understanding of equality, the order of operations and equivalent numerical expressions. | MA.5.AR.2.1 Translate written real-world and mathematical descriptions into numerical expressions and numerical expressions into written mathematical descriptions.<br>MA.5.AR.2.2 Evaluate multi-step numerical expressions using order of operations.<br>MA.5.AR.2.3 Determine and explain whether an equation involving any of the four operations is true or false.<br>MA.5.AR.2.4 Given a mathematical or real-world context, write an equation involving any of the four operations to determine the unknown whole number with the unknown in any position. |
| | | | | **MA.2.AR.3** Develop an understanding of multiplication. | MA.2.AR.3.1 Represent an even number using two equal groups or two equal addends. Represent an odd number using two equal groups with one left over or two equal addends plus 1.<br>MA.2.AR.3.2 Use repeated addition to find the total number of objects in a collection of equal groups. Represent the total number of objects using rectangular arrays and equations. | **MA.3.AR.3** Identify numerical patterns, including multiplicative patterns. | MA.3.AR.3.1 Determine and explain whether a whole number from 1 to 1,000 is even or odd.<br>MA.3.AR.3.2 Determine whether a whole number from 1 to 144 is a multiple of a given one-digit number.<br>MA.3.AR.3.3 Identify, create and extend numerical patterns. | **MA.4.AR.3** Recognize numerical patterns, including patterns that follow a given rule. | MA.4.AR.3.1 Determine factor pairs for a whole number from 0 to 144. Determine whether a whole number from 0 to 144 is prime, composite or neither.<br>MA.4.AR.3.2 Generate, describe and extend a numerical pattern that follows a given rule. | **MA.5.AR.3** Analyze patterns and relationships between inputs and outputs. | MA.5.AR.3.1 Given a numerical pattern, identify and write a rule that can describe the pattern as an expression.<br>MA.5.AR.3.2 Given a rule for a numerical pattern, use a two-column table to record the inputs and outputs. |

| | Kindergarten | | Grade 1 | | Grade 2 | | Grade 3 | | Grade 4 | | Grade 5 | |
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| **MEASUREMENT (M)** | **MA.K.M.1** Identify and compare measurable attributes of objects. | MA.K.M.1.1 Identify the attributes of a single object that can be measured such as length, volume or weight.<br><br>MA.K.M.1.2 Directly compare two objects that have an attribute which can be measured in common. Express the comparison using language to describe the difference.<br><br>MA.K.M.1.3 Express the length of an object, up to 20 units long, as a whole number of lengths by laying non-standard objects end to end with no gaps or overlaps. | **MA.1.M.1** Compare and measure the length of objects. | MA.1.M.1.1 Estimate the length of an object to the nearest inch. Measure the length of an object to the nearest inch or centimeter.<br><br>MA.1.M.1.2 Compare and order the length of up to three objects using direct and indirect comparison. | **MA.2.M.1** Measure the length of objects and solve problems involving length. | MA.2.M.1.1 Estimate and measure the length of an object to the nearest inch, foot, yard, centimeter or meter by selecting and using an appropriate tool.<br><br>MA.2.M.1.2 Measure the lengths of two objects using the same unit and determine the difference between their measurements.<br><br>MA.2.M.1.3 Solve one- and two-step real-world measurement problems involving addition and subtraction of lengths given in the same units. | **MA.3.M.1** Measure attributes of objects and solve problems involving measurement. | MA.3.M.1.1 Select and use appropriate tools to measure the length of an object, the volume of liquid within a beaker and temperature.<br><br>MA.3.M.1.2 Solve real-world problems involving any of the four operations with whole-number lengths, masses, weights, temperatures or liquid volumes. | **MA.4.M.1** Measure the length of objects and solve problems involving measurement. | MA.4.M.1.1 Select and use appropriate tools to measure attributes of objects.<br><br>MA.4.M.1.2 Convert within a single system of measurement using the units: yards, feet, inches; kilometers, meters, centimeters, millimeters; pounds, ounces; kilograms, grams; gallons, quarts, pints, cups; liter, milliliter; and hours, minutes, seconds. | **MA.5.M.1** Convert measurement units to solve multi-step | MA.5.M.1.1 Solve multi-step real-world problems that involve converting measurement units to equivalent measurements within a single system of measurement. |
| | | | **MA.1.M.2** Tell time and identify the value of coins and combinations of coins and dollar bills. | MA.1.M.2.1 Using analog and digital clocks, tell and write time in hours and half-hours.<br><br>MA.1.M.2.2 Identify pennies, nickels, dimes and quarters, and express their values using the ¢ symbol. State how many of each coin equal a dollar.<br><br>MA.1.M.2.3 Find the value of combinations of pennies, nickels and dimes up to one dollar, and the value of combinations of one, five and ten dollar bills up to $100. Use the ¢ and $ symbols appropriately. | **MA.2.M.2** Tell time and solve problems involving money. | MA.2.M.2.1 Using analog and digital clocks, tell and write time to the nearest five minutes using a.m. and p.m. appropriately. Express portions of an hour using the fractional terms half an hour, half past, quarter of an hour, quarter after and quarter til.<br><br>MA.2.M.2.2 Solve one- and two-step addition and subtraction real-world problems involving either dollar bills within $100 or coins within 100¢ using $ and ¢ symbols appropriately. | **MA.3.M.2** Tell and write time and solve problems involving time. | MA.3.M.2.1 Using analog and digital clocks tell and write time to the nearest minute using a.m. and p.m. appropriately.<br><br>MA.4.M.2.2 Solve one- and two-step real-world problems involving elapsed time. | **MA.4.M.2** Solve problems involving time and money. | MA.4.M.2.1 Solve two-step real-world problems involving distances and intervals of time using any combination of the four operations.<br><br>MA.4.M.2.2 Solve one- and two-step addition and subtraction real-world problems involving money using decimal notation. | **MA.4.M.2** Solve problems involving money. | MA.5.M.2.1 Solve multi-step real-world problems involving money using decimal notation. |

## GEOMETRIC REASONING (GR)

| Kindergarten | | Grade 1 | | Grade 2 | | Grade 3 | | Grade 4 | | Grade 5 | |
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| **MA.K.GR.1** Identify, compare and compose two- and three-dimensional figures. | MA.K.GR.1.1 Identify two- and three-dimensional figures regardless of their size or orientation. Figures are limited to circles, triangles, rectangles, squares, spheres, cubes, cones and cylinders. | **MA.1.GR.1** Identify and analyze two- and three-dimensional figures based on their defining attributes. | MA.1.GR.1.1 Identify, compare and sort two- and three-dimensional figures based on their defining attributes. Figures are limited to circles, semi-circles, triangles, rectangles, squares, trapezoids, hexagons, spheres, cubes, rectangular prisms, cones and cylinders. | **MA.2.GR.1** Identify and analyze two-dimensional figures and identify lines of symmetry. | MA.2.GR.1.1 Identify and draw two-dimensional figures based on their defining attributes. Figures are limited to triangles, rectangles, squares, pentagons, hexagons and octagons. | **MA.3.GR.1** Describe and identify relationships between lines and classify quadrilaterals. | MA.3.GR.1.1 Describe and draw points, lines, line segments, rays, intersecting lines, perpendicular lines and parallel lines. Identify these in two-dimensional figures. | **MA.4.GR.1** Draw, classify and measure angles. | MA.4.GR.1.1 Informally explore angles as an attribute of two-dimensional figures. Identify and classify angles as acute, right, obtuse, straight or reflex. | **MA.5.GR.1** Classify two-dimensional figures and three-dimensional figures based on defining attributes. | MA.5.GR.1.1 Classify triangles or quadrilaterals into different categories based on shared defining attributes. Explain why a triangle or quadrilateral would or would not belong to a category. |
| | MA.K.GR.1.2 Compare two-dimensional figures based on their similarities, differences and positions. Sort two-dimensional figures based on their similarities and differences. Figures are limited to circles, triangles, rectangles and squares. | | MA.1.GR.1.2 Sketch two-dimensional figures when given defining attributes. Figures are limited to triangles, rectangles, squares and hexagons. | | MA.2.GR.1.2 Categorize two-dimensional figures based on the number and length of sides, number of vertices, whether they are closed or not and whether the edges are curved or straight. | | MA.3.GR.1.2 Identify and draw quadrilaterals based on their defining attributes. Quadrilaterals include parallelograms, rhombi, rectangles, squares and trapezoids. | | MA.4.GR.1.2 Estimate angle measures. Using a protractor, measure angles in whole-number degrees and draw angles of specified measure in whole-number degrees. Demonstrate that angle measure is additive. | | MA.5.GR.1.2 Identify and classify three-dimensional figures into categories based on their defining attributes. Figures are limited to right pyramids, right prisms, right circular cylinders, right circular cones and spheres. |
| | MA.K.GR.1.3 Compare three-dimensional figures based on their similarities, differences and positions. Sort three-dimensional figures based on their similarities and differences. Figures are limited to spheres, cubes, cones and cylinders. | | MA.1.GR.1.3 Compose and decompose two- and three-dimensional figures. Figures are limited to semi-circles, triangles, rectangles, squares, trapezoids, hexagons, cubes, rectangular prisms, cones and cylinders. | | MA.2.GR.1.3 Identify line(s) of symmetry for a two-dimensional figure. | | MA.3.GR.1.3 Draw line(s) of symmetry in a two-dimensional figure and identify line-symmetric two-dimensional figures. | | MA.4.GR.1.3 Solve real-world and mathematical problems involving unknown whole-number angle measures. Write an equation to represent the unknown. | | |
| | MA.K.GR.1.4 Find real-world objects that can be modeled by a given two- or three-dimensional figure. Figures are limited to circles, triangles, rectangles, squares, spheres, cubes, cones and cylinders. | | MA.1.GR.1.4 Given a real-world object, identify parts that are modeled by two- and three-dimensional figures. Figures are limited to semi-circles, triangles, rectangles, squares and hexagons, spheres, cubes, rectangular prisms, cones and cylinders. | | | | | | | | |
| | MA.K.GR.1.5 Combine two-dimensional figures to form a given composite figure. Figures used to form a composite shape are limited to triangles, rectangles and squares. | | | | | | | | | | |
| | | | | **MA.2.GR.2** Describe perimeter and find the perimeter of polygons. | MA.2.GR.2.1 Explore perimeter as an attribute of a figure by placing unit segments along the boundary without gaps or overlaps. Find perimeters of rectangles by counting unit segments. | **MA.3.GR.2** Solve problems involving the perimeter and area of rectangles. | MA.3.GR.2.1 Explore area as an attribute of a two-dimensional figure by covering the figure with unit squares without gaps or overlaps. Find areas of rectangles by counting unit squares. | **MA.4.GR.2** Solve problems involving the perimeter and area of rectangles. | MA.4.GR.2.1 Solve perimeter and area mathematical and real-world problems, including problems with unknown sides, for rectangles with whole-number side lengths. | **MA.5.GR.2** Find the perimeter and area of rectangles with fractional or decimal side lengths. | MA.5.GR.2.1 Find the perimeter and area of a rectangle with fractional or decimal side lengths using visual models and formulas. |
| | | | | | MA.2.GR.2.2 Find the perimeter of a polygon with whole-number side lengths. Polygons are limited to triangles, rectangles, squares and pentagons. | | MA.3.GR.2.2 Find the area of a rectangle with whole-number side lengths using a visual model and a multiplication formula. | | MA.4.GR.2.2 Solve problems involving rectangles with the same perimeter and different areas or with the same area and different perimeters. | | |
| | | | | | | | MA.3.GR.2.3 Solve mathematical and real-world problems involving the perimeter and area of rectangles with whole-number side lengths using a visual model and a formula. | | | | |
| | | | | | | | MA.3.GR.2.4 Solve mathematical and real-world problems involving the perimeter and area of composite figures composed of non-overlapping rectangles with whole-number side lengths. | | | | |
| | | | | | | | | | | **MA.5.GR.3** Solve problems involving the volume of right rectangular prisms. | MA.5.GR.3.1 Explore volume as an attribute of three-dimensional figures by packing them with unit cubes without gaps. Find the volume of a right rectangular prism with whole-number side lengths by counting unit cubes. |
| | | | | | | | | | | | MA.5.GR.3.2 Find the volume of a right rectangular prism with whole-number side lengths using a visual model and a formula. |

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| | | MA.5.GR.3.3<br>Solve real-world problems involving the volume of right rectangular prisms, including problems with an unknown edge length, with whole-number edge lengths using a visual model or a formula. Write an equation with a variable for the unknown to represent the problem. |
| | **MA.5.GR.4**<br>Plot points and represent problems on the coordinate plane. | MA.5.GR.4.1<br>Identify the origin and axes in the coordinate system. Plot and label ordered pairs in the first quadrant of the coordinate plane.<br><br>MA.5.GR.4.2<br>Represent mathematical and real-world problems by plotting points in the first quadrant of the coordinate plane and interpret coordinate values of points in the context of the situation. |

| | Kindergarten | | Grade 1 | | Grade 2 | | Grade 3 | | Grade 4 | | Grade 5 | |
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| **DATA ANALYSIS & PROBABILITY (DP)** | **MA.1.DP.1** Develop an understanding for collecting, representing and comparing data. | MA.K.DP.1.1 Collect and sort objects into categories and compare the categories by counting the objects in each category. Report the results verbally, with a written numeral or with drawings. | **MA.1.DP.1** Collect, represent and interpret data using pictographs and tally marks. | MA.1.DP.1.1 Collect data into categories and represent the results using tally marks or pictographs.<br><br>MA.1.DP.1.2 Interpret data represented with tally marks or pictographs by calculating the total number of data points and comparing the totals of different categories. | **MA.2.DP.1** Collect, categorize, represent and interpret data using appropriate titles, labels and units. | MA.2.DP.1.1 Collect, categorize and represent data using tally marks, tables, pictographs or bar graphs. Use appropriate titles, labels and units.<br><br>MA.2.DP.1.2 Interpret data represented with tally marks, tables, pictographs or bar graphs including solving addition and subtraction problems. | **MA.3.DP.1** Collect, represent and interpret numerical and categorical data. | MA.3.DP.1.1 Collect and represent numerical and categorical data with whole-number values using tables, scaled pictographs, scaled bar graphs or line plots. Use appropriate titles, labels and units.<br><br>MA.3.DP.1.2 Interpret data with whole-number values represented with tables, scaled pictographs, circle graphs, scaled bar graphs or line plots by solving one- and two-step problems. | **MA.4.DP.1** Collect, represent and interpret data and find the mode, median and range of a data set. | MA.4.DP.1.1 Collect and represent numerical data, including fractional values, using tables, stem-and-leaf plots or line plots.<br><br>MA.4.DP.1.2 Determine the mode, median or range to interpret numerical data including fractional values, represented with tables, stem-and-leaf plots or line plots.<br><br>MA.4.DP.1.3 Solve real-world problems involving numerical data. | **MA.5.DP.1** Collect, represent and interpret data and find the mean, mode, median or range of a data set. | MA.5.DP.1.1 Collect and represent numerical data, including fractional and decimal values, using tables, line graphs or line plots.<br><br>MA.5.DP.1.2 Interpret numerical data, with whole-number values, represented with tables or line plots by determining the mean, mode, median or range. |