MATH

	Prioritized MATH Curriculum							
	4/6-4/17 Unit 1	4/20-5/1 Unit 2	5/4-5/15 Unit 3	5/18-5/29 Unit 4	6/1-6/12 Unit 5	6/15-6/26 Unit 6		
			Math- Standa	ards of Focus				
Р К	Operations and Algebraic Thinking PK.OA	Counting and Cardinality	Counting and Cardinality	Counting and Cardinality	Measurement and Data	Geometry		
	Understand addition as adding to and understand subtraction as taking from. PK.OA.1. Explore addition and subtraction by using objects, fingers, and responding to real world situations. Understand simple patterns. PK.OA.2. Duplicate and extend simple patterns using concrete objects.	Know number names and the count sequence. PK.CC.1. Count to 20. 2. Represent a number of objects (0 - 5), with a written numeral 0–5 (with 0 representing a count of no objects).	Count to tell the number of objects. PK.CC.3. Understand the relationship between numbers and quantities to 10; connect counting to cardinality.	Compare numbers. PK.CC.5 . Recognize whether the number of objects in one group is more than, fewer than, or equal to (the same as) the number of objects in another group. Note: Include groups with up to five objects. PK.CC.6. Identify "first" and "last" related to order or position.	Describe and compare measurable attributes. PK.MD.1. Identify measurable attributes of objects, such as length or weight, and describe them using appropriate vocabulary. Sort objects and count the number of objects in each category. PK.MD.2. Sort objects and shapes into categories; count the objects in each category. Note: Limit category counts to be less than or equal to 10.	Identify and describe shapes (squares, circles, triangles, and rectangles). PK.G.1. Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as top, bottom, up, down, above, below, in front of, behind, over, under, and next to. PK.G.2. Name shapes regardless of size.		
к	Operations and Algebraic Thinking	Numbers and Operations in Base Ten	Counting and Cardinality	Counting and Cardinality	Measurement and Data	Geometry		
	Understand addition as adding to and understand subtraction as taking from. K.OA.1 Represent addition and subtraction using objects, fingers, pennies, drawings, sounds, acting	Work with numbers 11–19 to gain foundations for place value. K.NBT.1. Compose and decompose the numbers from 11 to 19 into ten ones and one, two, three, four,	Know number names and the count sequence. NY-K.CC.1 Count to 100 by ones and by tens. NY-K.CC.2 Count to 100 by ones beginning from any given number (instead of beginning at 1).	Count to tell the number of objects. NY-K.CC.5a Answer counting questions using as many as 20 objects arranged in a line, a rectangular array, and a circle. Answer counting questions using as many	Describe and compare measurable attributes. NY-K.MD.1 Describe measurable attributes of an object(s), such as length or weight, using appropriate vocabulary. e.g., small, big, short, tall, empty, full, heavy, and light.	Analyze, compare, sort, and compose shapes. NY-K-G.4 Analyze, compare, and sort two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their		

	out situations, verbal explanations, exp ressions, equations or other strategies. NY-K.OA.2a Add and subtract within 10.	five, six, seven, eight, or nine ones.	NY-K.CC.3 Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 <u>Count to tell the number</u> of objects. NY-K.CC.4 Understand the relationship between numbers and quantities up to 20; connect counting to cardinality.	as 10 objects in a scattered configuration. Compare numbers. NY-K.CC.6 Identify whether the number of objects in one group is greater than (more than), less than (fewer than), or equal to (the same as) the number of objects in another group.	Classify objects and count the number of objects in each category. NY-K.MD.3. Classify objects into given categories; count the objects in each category and sort the categories Note: Limit category counts to be less than or equal to 10. NY-K.MD.4. Explore coins (pennies, nickels, dimes, and quarters) and begin identifying pennies and dimes.	similarities, differences, parts, and other attributes. e.g., number of sides, number of vertices/"corners," or having sides of equal length NY-K-G.5 Model objects in their environment by building and/or drawing shapes. NY-K-G.6 Compose larger shapes from simple shapes. e.g., join two triangles to make a rectangle
1	Number and Operations in Base Ten	Number and Operations in Base Ten	Measurement and Data	Measurement and Data	Geometry	Geometry
	Extend the counting sequence. NY-1.NBT.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. NY-1.NBT.3 Compare two two-digit numbers based on meaning of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.	Use place value understanding and properties of operations to add and subtract. NY-1.NBT.4 Add within 100 Add within 100, including • a two-digit number and a one-digit number, • a two-digit number and a multiple of 10. Use concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones, and sometimes it is necessary to compose a ten. Relate the strategy to a written representation and explain the reasoning used.	Measure lengths indirectly and by iterating length units. NY-1.MD.2 Measure the length of an object using same-size "length units" placed end to end with no gaps or overlaps. Express the length of an object as a whole number of "length units." Represent and interpret data. NY-1.MD.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.	Tell and write time and money. NY-1.MD.3a Tell and write time in hours and half-hours using analog and digital clocks. Develop an understanding of common terms, such as, but not limited to, o'clock and half past. NY-1.MD.3c Count a mixed collection of dimes and pennies and determine the cent value (total not to exceed 100 cents). e.g. 3 dimes and 4 pennies is the same as 3 tens and 4 ones, which is 34 cents (34 ¢)	Reason with shapes and their attributes. NY-1.G.1 Distinguish between defining attributes versus non-defining attributes for a wide variety of shapes. Build and/or draw shapes to possess defining attributes. NY-1.G.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.	Reason with shapes and their attributes. NY-1.G.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.

2	Number and Operations in Base Ten	Measurement and Data	Measurement and Data	Geometry	Geometry	Operations and Algebraic Thinking
	Use place value understanding and properties of operations to add and subtract. NY-2.NBT.7a 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 representation NY-2.NBT.7b. Understand that in adding or subtracting up to 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.	Measure and estimate lengths in standard units. NY-2.MD.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 Represent and interpret data. NY-2.MD.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	Work with time and money. NY-2.MD.7 Tell and write time from analog and digital clocks in five-minute increments, using a.m. and p.m. Develop an understanding of common terms, such as, but not limited to, quarter past, half past, and quarter to NY-2.MD8a. Count a mixed collection of coins whose sum is less than or equal to one dollar. NY-2.MD8b. Solve real world and mathematical problems within one dollar involving quarters, dimes, nickels, and pennies, using the ¢ (cent) symbol appropriately.	Reason with shapes and their attributes. NY-2.G.1 Classify two-dimensional figures as polygons or non-polygons NY-2.G.2 Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.	Reason with shapes and their attributes. NY-2.G.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.	Represent and solve problems involving addition and subtraction. NY-2.OA.1a 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.
3	Number and Operations – Fractions	Measurement and Data	Measurement and Data	Measurement and Data	Geometry	Measurement and Data

Deve of fra Note limit deno and NY-3 unit f quan wher into k Unde as th parts NY-3 two f (equa size, numi NY-3 and g fracti 6 = 2 fracti	elop understanding actions as numbers. a: Fractions are ted to those with ominators 2, 3, 4, 6, 8. 3.NF.1 Understand a fraction, 1 bb, is the netity formed by 1 part in a whole is partitioned b equal parts. erstand a fraction aa bb ne quantity formed by a s of size 1 bb. 3.NF.3 Explain valence of fractions compare fractions by oning about their size. 3.NF.3a Understand fractions as equivalent al) if they are the same or the same point on a ber line. 3.NF.3b. Recognize generate equivalent ions. e.g., 1 2 = 2 4 ; 4 2 3 Explain why the ions are equivalent.	Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects. NY-3.MD.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. Represent and interpret data. NY-3.MD.4 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters.	Represent and interpret data. NY-3.MD.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.	Geometric measurement: understand concepts of area and relate area to multiplication and to addition. NY-3.MD5. Recognize area as an attribute of plane figures and understand concepts of area measurement. NY-3.MD.6 Measure areas by counting unit squares. NY-3.MD.7 Relate area to the operations of multiplication and addition	Reason with shapes and their attributes. NY-3.G.1 Recognize and classify polygons based on the number of sides and vertices (triangles, quadrilaterals, pentagons, and hexagons). Identify shapes that do not belong to one of the given subcategories. NY-3.G.2 Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. e.g., Partition a shape into 4 parts with equal area, and describe the area of each part as $\frac{1}{4}$ of the area of the shape.	Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures. NY-3.MD.8a Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths or finding one unknown side length given the perimeter and other side lengths NY-3.MD.8b Identify rectangles with the same perimeter and different areas or with the same area and different perimeters.
Num	ber and Operations – Fractions	Number and Operations – Fractions	Number and Operations – Fractions	Geometry	Geometry	Measurement and Data
Exte fract orde NY-4 fracti fracti fracti atten numl parts two f are t princ gene fracti	and understanding of tion equivalence and ering. 4.NF.1 Explain why a ion $\frac{a}{b}$ is equivalent to a ion $\frac{a \times n}{b \times n}$ by using visual ion models, with thion to how the ber and size of the s differ even though the fractions themselves the same size. Use this siple to recognize and erate equivalent ions.	Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers. NY-4.NF.3b 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. NY-4.NF.3c Add and subtract mixed numbers	Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers. NY-4.NF.4 Apply and extend previous understandings of multiplication to multiply a whole number by a fraction. c. Understand a fraction <i>aa</i> <i>bb</i> as a multiple of 1 <i>bb</i> . b. Understand a multiple of <i>aa bb</i> as a multiple of 1 <i>bb</i> , and use this understanding	Draw and identify lines and angles, and classify shapes by properties of their lines and angles. NY-4.G.1 Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures. NY-4.G.2a. Identify and name triangles based on angle size (right, obtuse, acute).	Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit. NY-4.MD.3 Apply the area and perimeter formulas for rectangles in real world and mathematical problems. e.g., Find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication	Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit. NY-4.MD.1 Know relative sizes of measurement units: ft., in.; km, m, cm e.g., An inch is about the distance from the tip of your thumb to your first knuckle. A foot is the length of two-dollar bills.

	NY-4.NF.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. NY-4.NF.3 Understand a fraction $\frac{a}{b}$ with a > 1 as a sum of fractions $\frac{1}{b}$ Note: $\frac{1}{b}$ refers to the unit fraction for $\frac{a}{b}$ NY-4.NF.3a . Understand addition and subtraction of fractions as joining and separating parts referring to the same whole	with like denominators.	to multiply a whole number by a fraction. c. Solve word problems involving multiplication of a whole number by a fraction.	NY-4.G.2b. Identify and name all quadrilaterals with 2 pairs of parallel sides as parallelograms. NY-4.G.2c. Identify and name all quadrilaterals with four right angles as rectangles. NY-4.G.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	equation with an unknown factor.	A meter is about the height of a kitchen counter. A kilometer is 2 ½ laps around most tracks. Know the conversion factor and use it to convert measurements in a larger unit in terms of a smaller unit: ft., in.; km, m, cm; hr., min.,sec. e.g., Know that 1 ft. is 12 times as long as 1 in. and express the length of a 4 ft. snake as 48 in. Given the conversion factor, convert all other measurements within a single system of measurement from a larger unit to a smaller unit. e.g., Given the conversion factors, convert kilograms to grams, pounds to ounces, or liters to milliliters. <u>Note:</u> Grade 4 expectations are limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100.
5	Number and Operations – Fractions	Number and Operations – Fractions	Number and Operations – Fractions	Number and Operations – Fractions	Measurement and Data	Geometry
	Use equivalent fractions as a strategy to add and subtract fractions. NY-5.NF.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. NY-5.NF.2 Solve word problems involving addition	Apply and extend previous understandings of multiplication and division to multiply and divide fractions. NY-5.NF.3 Interpret a fraction as division of the numerator by the denominator ($\frac{a}{b} = a \div b$). e.g., Interpret $\frac{3}{4}$ as the result of dividing 3 by 4, noting that $\frac{3}{4}$ multiplied by 4 equals 3, and that when3 wholes are shared equally	Apply and extend previous understandings of multiplication and division to multiply and divide fractions. NY-5.NF.4a Interpret the product $\frac{a}{b} \times q$ as a part of a partition of q into b equal parts; equivalently, as the result of a sequence of operations a $\times q \div b$. e.g., Use a visual fraction model to show $\frac{2}{3} \times 4 = \frac{8}{3}$, and create a story context	Apply and extend previous understandings of multiplication and division to multiply and divide fractions. NY-5.NF.4b 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	Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition. NY-5.MD.5 Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume. Convert like measurement units within a given measurement system.	Graph points on the coordinate plane to solve real-world and mathematical problems. NY-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.

	and subtraction of fractions referring to the same whole, including cases of unlike denominators. e.g., using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.	among 4 people each person has a share of size $\frac{3}{4}$. Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers. e.g., using visual fraction models or equations to represent the problem.e.g., If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?	for this equation. Do the same with $\frac{2}{3} \times \frac{4}{5} = \frac{8}{15}$. NY-5.NF.6 Solve real world problems involving multiplication of fractions and mixed numbers. e.g., using visual fraction models or equations to represent the problem.	lengths to find areas of rectangles, and represent fraction products as rectangular areas. NY-5.NF.7 Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.	NY-5.MD.1 Convert among different-sized standard measurement units within a given measurement system when the conversion factor is given. Use these conversions in solving multi-step, real world problems.	
6	Expressions, Equations, and Inequalities	Expressions, Equations, and Inequalities	Geometry	Geometry	Statistics and Probability	Statistics and Probability
	Reason about and solve one-variable equations and inequalities. NY-6.EE.6Use variables to represent numbers and write expressions when solving a real-world or mathematical problem. Understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set. NY-6.EE.7Solve real-world and mathematical problems by writing and solving equations of the form $x + p$ = q; $x - p$ = q; px = q; and xx pp = q for cases in which p, q, and x are all nonnegative rational numbers Represent and analyze quantitative relationships between dependent and	Reason about and solve one-variable equations and inequalities. NY-6.EE.5 Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true NY-6.EE.8 Write an inequality of the form $x > c$, $x \ge c$, $x \le c$, or $x < c$ to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of these forms have infinitely many solutions; represent solutions of such	Solve real-world and mathematical problems involving area, surface area, and volume. NY-6.G.1 Find area of triangles, trapezoids, and other polygons by composing into rectangles or decomposing into triangles and quadrilaterals. Apply these techniques in the context of solving real-world and mathematical problems. NY-6.G.3 Draw polygons in the coordinate plane given coordinates for the vertices. Use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and	Solve real-world and mathematical problems involving area, surface area, and volume. NY-6.G.4 Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems. NY-6.G.2 Find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.	Develop understanding of statistical variability. NY-6.SP.1a Recognize that a statistical question is one that anticipates variability in the data related to the question and accounts for it in the answers. NY-6.SP.2 Understand that a set of quantitative data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape. NY-6.SP.3 Recognize that a measure of center for a quantitative data set summarizes all of its values with a single number while a measure of variation describes how its values vary with a single number. Summarize and describe distributions.	Investigate chance processes and develop, use, and evaluate probability models. NY-6.SP.6 Understand that the probability of a chance event is a number between 0 and 1 inclusive, that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around ½ indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.

	independent variables. NY-6.EE.9 Use variables to represent two quantities in a real-world problem that change in relationship to one another.	inequalities on a number line.	mathematical problems.		NY-6.SP.4 Display quantitative data in plots on a number line, including dot plots, and histograms. NY-6.SP.5c Calculate range and measures of center, as well as describe any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.	
7	Ratios and Proportional Relationships	Geometry	Ratios and Proportional Relationships	Statistics and Probability	Statistics and Probability	Geometry
	Analyze proportional relationships and use them to solve real-world and mathematical problems. NY-7.RP.1 Compute unit rates associated with ratios of fractions. e.g., If a person walks 1/2 mile in each 1/4 hour, compute the rate as the complex fraction $\frac{1}{4}$ miles per hour, equivalently 2 miles per hour with 2 being the unit rate.	Draw, construct, and describe geometrical figures and describe the relationships between them. NY-7.G.1 Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale	Analyze proportional relationships and use them to solve real-world and mathematical problems. NY-7.RP.3 Use proportional relationships to solve multistep ratio and percent problems.	Investigate chance processes and develop, use, and evaluate probability models. NY-7.SP.8 Find probabilities of compound events using organized list, sample space tables, tree diagrams, and simulation.	Draw informal comparative inferences about two populations. NY-7.SP.4 Use measures of center and measures of variability for quantitative data from random samples or populations to draw informal comparative inferences about the populations.	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume. NY-7.G.4 Apply the formulas for the area and circumference of a circle to solve problems.
8	Geometry	Geometry	Geometry	Statistics and Probability	Statistics and Probability	Geometry
	Understand congruence and similarity using physical models, transparencies, or geometry software. NY-8.G.3 Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates. Note: Lines of reflection are	Understand congruence and similarity using physical models, transparencies, or geometry software. NY-8.G.2 Know that a two-dimensional figure is congruent to another if the corresponding angles are congruent and the corresponding sides are congruent. Equivalently,	Understand congruence and similarity using physical models, transparencies, or geometry software. NY-8.G.5 Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal,	Investigate patterns of association in bivariate data. NY-8.SP.1 Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear	Investigate patterns of association in bivariate data. NY-8.SP.2 Understand that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by	NY-8.G.9 Given the formulas for the volume of cones, cylinders, and spheres, solve mathematical and real-world problems.

limited to both axes and lines of the form y=k and x=k, where k is a constant. Rotations are limited to 90 and 180 degrees about the origin. Unless otherwise specified, rotations are assumed to be counterclockwise.	two two dimensional figures are congruent if one is the image of the other after a sequence of rotations, reflections, and translations. Given two congruent figures, describe a sequence that maps the congruence between them on the coordinate plane.	and the angle-angle criterion for similarity of triangles. e.g., Arrange three copies of the same triangle so that the three angles appear to form a line, and give an argument in terms of transversals why this is so. <u>Note:</u> This standard does not include formal geometric proof. Multiple representations may be used to demonstrate understanding.	association, and nonlinear association	judging the closeness of mature plant height.	
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