Washington Borough School District
Mathematics Curriculum

Kindergarten

Mathematics Grade: Kindergarten	Big Idea: Number Names and Count Sequences	Unit #1
Evidence Statements: ● Count by ones up to 10 ● Represent the number of objects by the correct numeral up to 5 (using zero to represent no objects). ● Assign an ascending number name for each object in a group. ● For objects named in the standard order, identify the last number named as the number of counted objects in the set (regardless of the order they are counted). ● Know the next number name in counting is always one greater than the previous number. ● Answer "how many?" questions about groups of objects up to 10 when arranged in a line or up to 5 in a scattered configuration. ● Create addition and subtraction events with objects (or make drawings) to represent a sum (putting together) or a difference (taking from) up to 10.	Assessment Examples: ● Counting Games ● Oral Assessments ● Observation ● Number Days ● Number of the Day ● 10 Frames ● Formative and Summative assessments ● Benchmarks 21st Century Skills and Career Integration: ● Income, spending, earn, save, charity ● Identify potential sources of income ● Identify age-appropriate financial goals Technology and Interdisciplinary Integration: ● Online counting games ● Interactive whiteboard games/activities ● Writing about math ● Measurement ● Timelines ● Math Reading List Core Instruction and Supplemental Materials: ● Go Math ● Teacher Created Materials ● Math manipulatives: connecting blocks, counters, number tiles, calendars, pattern blocks	NJ Student Learning Standards: K.CC.1 K.CC.3 K.CC.4 K.CC.4 K.CC.4 K.CC.5 K.OA.1 Standards for Mathematical Practice: SMP 1,2,4
Vocabulary: count, numeral, ascending number, standard order, greater than, previous number, putting together, taking from, the numbers 1-20, multiples of 10 through 100, ordinal numbers 1st through 10th and multiples of 10, large, larger, small, smaller, compare, equal, clock, calendar, day, week, year, coin		

Mathematics Grade: Kindergarten	Big Idea: Addition as "adding to" and Subtraction as "taking from"	Unit #2
Evidence Statements: ● Count to 100 by ones and by tens. ● Count and represent with a written numeral a number of objects to 10 ● Write numerals from zero to 10. ● Count to 30 by ones and tens. ● Count forward beginning from any given number up to 50 -- instead of having to begin at one. ● Use objects or drawings to represent and solve addition and subtraction word problems (within 10) ● Fluently add within 5. ● Classify and sort objects into given categories and count the objects in each category (up to 10 objects).	Assessment: ● Counting games ● Oral assessments ● Number cards ● Skip counting ● Observation ● Benchmarks 21st Century and Career Integration: ● Income, spending, earn, save, charity ● Identify potential sources of income ● Identify age-appropriate financial goals Technology and Interdisciplinary Integration: ● Online games/activities ● Measurement/Timelines ● Writing in math ● Interactive whiteboard activities ● Math Reading List Core Instructional and Supplemental Materials: ● Go Math ● Teacher Created Materials ● Math manipulatives: connecting blocks, counters, number tiles, calendars, pattern blocks	NJ Student Learning Standards K.CC.1 K.CC.3 K.CC.3 K.CC.1 K.CC.2 K.OA.2 K.OA.5 K.MD.3 SMP 1,2,5,7
Vocabulary: ones, tens, classify, sort, Identity Property of Zero, addition, subtraction, add, subtract, whole, equal, guess and check, group, compose (make) a ten, count on, calculator		

Mathematics Grade: Kindergarten	Big Idea: (A)Compare Numbers and (B)Comparing Shapes	Unit #3
Evidence Statements: Part A: ● Count and represent with a written numeral a number of objects to 20. ● Write numerals from zero to 20. ● Count to 30 by ones and tens. ● Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group. (groups of up to 10 objects). ● Compare numbers (up to 10) written as numerals. Part B: ● Describe measurable attributes of objects, e.g., length and weight. ● Directly compare and describe two objects with a measurable attribute in common using "more of"/"less of" the attribute. For example, directly compare the heights of two children and describe one child as taller/shorter. ● Analyze and compare two- and three-dimensional shapes in different sizes and orientations by counting sides or vertices ("corners") or comparing attributes such as side lengths.	Assessment: ● Oral and Written (formative and summative) ● Performance tasks ● Counting games ● Measurement games/activities ● Observation ● Benchmark 21st Century and Career Integration: ● Income, spending, earn, save, charity ● Identify potential sources of income ● Identify age-appropriate financial goals Technology and Interdisciplinary Integration: ● Online counting games ● Balance-measure and compare weights ● Math Reading List Core Instructional and Supplemental materials: ● Go Math ● Teacher Created Materials ● Math manipulatives: connecting blocks, counters, number tiles, calendars, pattern blocks, rulers, tape measure/meter stick	NJ Student Learning Standards K.CC.3 K.CC.3 K.CC.1 K.CC.6 K.CC.7 K.MD.1 K.MD.2 K.G.4 Standards for Mathematical Practice SMP 1,2,6
Vocabulary: greater than, less than, equal to, compare, length, weight, more of, less of, height, two dimensional, three dimensional, side, vertices (corners), number line, part, share, size, whole, pattern, temperature, width, longer, shorter, distance		

Mathematics Grade: Kindergarten	Big Idea: Foundations for Place Value	Unit #4
Evidence Statements: - Count orally to 70 by ones and tens. - Decompose numbers less than or equal to ten into pairs of numbers in more than one way and record with a drawing or equations (e.g., write 7 as 2 + 5 and 6 + 1). - Given a number less than 10, find a number that makes 10 (e.g., 1 + 9, 2 + 8, 3 + 7, 4 + 6, 5 + 5, etc.). - Use mental math strategies to solve addition and subtraction facts within 5. - Compose and decompose numbers from 11 to 19 into a group of ten and one(s) with or without manipulatives. Record each composition or decomposition through a drawing or equation.	Assessment: - Counting games/activities - Oral assessments - Number cards - Formative and Summative Assessment - Oral assessments - Performance tasks/Benchmarks - Observations 21st Century Skills and Career Integrations: - Income, spending, earn, save, charity - Identify potential sources of income - Identify age-appropriate financial goals Technology and Interdisciplinary Connections: - Online games/activities - Writing in math - Math Reading List Core Instructional and Supplemental Materials: - Go Math - Teacher Created Materials - Math manipulatives: connecting blocks, counters, number tiles, pattern blocks, 100 chart, ten frames	NJ Student Learning Standards K.CC.1 K.OA.3 K.OA.4 K.OA.5 K.NBT.1 Standards for Mathematical Practice SMP 1,2,3,7
Vocabulary: equation, ones, place, tens		

Mathematics Grade: Kindergarten	Big Idea: Geometric Shapes	Unit #5
Evidence Statements: ● Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to. ● Correctly name shapes regardless of their orientations or overall size. ● Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid"). ● Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes. ● Compose simple shapes to form larger shapes *For example, "Can you join these two triangles with full sides touching to make a rectangle?"*	Assessment: ● Observation ● Informal questioning ● Games/activities ● Performance assessment ● Benchmarks 21st Century Skills and Career Integration: ● Income, spending, earn, save, charity ● Identify potential sources of income ● Identify age-appropriate financial goals Technology and Interdisciplinary Connections: ● Online games/activities ● Writing in math ● Math Reading List Core Instructional and Supplemental Materials: ● Go Math ● Teacher Created Materials ● Math manipulatives: geometric solids, blocks, pattern blocks, geoboards, unifix cubes	NJ Student Learning Standards K.G.1 K.G.2 K.G.3 K.G.5 K.G.6 Standards for Mathematical Practice SMP 1,4,6,7

Vocabulary: above, below, beside, in front of, behind, next to, two dimensional, plane (flat), three dimensional (solid), circle, rectangle, triangle

Other Kindergarten Vocabulary: chance

Kindergarten Modifications

ELL	Alternate responses, extended time, teacher modeling, simplified directions, vocabulary banks, manipulatives, nonverbal responses, sentence frames, prompts, partner talk
Special Education	Enlarged graph paper, small group instruction, highlighted instructions/keywords and/or computation signs, hands on activities, visual cues, number line, modified assessment, models
G&T	Enrichment activities, centers, projects, flexible grouping, interest centers, learning log, extension activities, small group

Grade 1

Mathematics Grade 1	Big Idea: Add and Subtract within 20	Unit #1
Evidence Statements: Part A ● Count utilizing written or verbal numerals starting at any number less than 100. ● Count forward or backwards from any number within 20 to solve addition & subtraction problems. ● Compose and decompose numbers to 20 to identify the value of the number in the tens & ones place. Part B ● Add or subtract whole numbers within 20 using strategies including making a 10 or decomposing a number leading to a 20. ● Apply properties of operations to add or subtract whole numbers within 20 (Commutative & Associative properties of addition). ● Solve subtraction problems using unknown addends (within 20).	Assessment: ● Formative assessments ● Summative assessments ● Centers/activities/games ● Oral assessment ● Skills assessment/Benchmarks ● Performance assessment ● Exit tickets 21st Century Skills and Career Integration: ● Identify age-appropriate financial goals ● Identify ways to earn and save Technology and Interdisciplinary Integration: ● Online games/activities ● Writing in math ● Math Reading List Instructional and Supplemental Materials: ● Go Math ● Teacher Created Materials ● Math manipulatives: 100 chart, ten frames, counters, number cards	NJ Student Learning Standards: 1.NBT.1 1.OA.5 1.NBT.2 1.OA.6 1.OA.3 1.OA.4 Standards for Mathematical Practice: SMP 1,2,7, 8
Vocabulary: value, written and verbal numerals, tens and ones place, compose and decompose, Commutative Property of Addition, Associative Property of Addition, count by 2's, 5's, and 10's, tallies, 100's, sum, total, true, false, difference, pattern, increase, decrease, addition table		

Mathematics Grade 1	Big Idea: Word Problems Involving Addition and Subtraction	Unit #2
Evidence Statements: Part A ● Use addition and subtraction within 20 to solve word problems involving situations or adding to, taking from, putting together, taking apart, and comparing with unknowns in all positions. ● Solve addition word problems with three whole numbers with sums less than or equal to 20. ● Demonstrate understanding of the equal sign by determining if an equation is true or false. ● Solve addition or subtraction equations by finding the missing whole number in any position. Part B ● Count to 120, starting at any number less than 120. ● Read and write numerals to 120 including representing a number of objects with a written numeral.	Assessment: ● Formative and Summative Assessments ● Performance tasks ● Games/Centers/Activities ● Exit tickets ● Benchmarks 21st Century Skills and Career Integration: ● Identify age-appropriate financial goals ● Identify ways to earn and save Technology and Interdisciplinary Connections: ● Online games/activities ● Writing in math ● Math Reading List Core Instructional and Supplemental materials: ● Go Math ● Teacher Created Materials ● Math Manipulatives: number cards, number line, 100 chart, counters	NJ Student Learning Standards: 1.OA.1 1.OA.2 1.OA.7 1.OA.8 1.NBT.1 1.NBT.1 Standards for Mathematical Practice: SMP1,2,4
Vocabulary: taking from, putting together, taking apart, whole number, sum, equal sign, equation, strategy, word problem		

Mathematics Grade 1	Big Idea: Understand Place Value	Unit #3
Evidence Statements: • Decompose two- digit numbers as the sum of tens and ones for numbers less than 100. • Compare two digit numbers using <, >, and = symbols. • Add a 2-digit and a 1-digit number, and a 2-digit number and a multiple of 10, using concrete models or drawings (sums within 50). Add tens and tens, and ones and ones, by decomposing 2-digit numbers and composing an additional ten when necessary (e.g., 18 + 20 equals 10 + 8 + 20 equals 30 + 8 equals 38; and, 37 + 5 equals 30 + 7 + 5 equals 30 + 12 equals 30 + 10 + 2 equals 40 + 2 equals 42). • Mentally find ten more or ten less than a number without having to count and explain the reasoning used. • Subtract multiples of ten from multiples of ten (numbers less than 100, differences greater than or equal to zero) and explain the reasoning used.	Assessments: • Formative and summative assessments • Performance assessment • Exit ticket • Observations • Benchmarks 21st Century Skills and Career Integration: • Identify age-appropriate financial goals • Identify ways to earn and save Technology and Interdisciplinary Integrations: • Online games/activities • Writing in math • Math Reading List Core Instructional and Supplemental Materials: • Go Math • Teacher Created Materials • Math Manipulatives: 100 chart, counters, number line, number cards	NJ Student Learning Standards: 1.NBT.2c 1.NBT.3 1.NBT.4 1.NBT.5 1.NBT.6 Standards for Mathematical Practice: SMP1,2,3,4,5,6,7
Vocabulary: greater than, less than, (concrete) model, multiple of ten, difference, represent, symbol, hundreds, even numbers, odd numbers, place value		

Mathematics Grade 1	Big Idea: Measurement and Shapes	Unit #4
Evidence Statements: ● Order three objects by lengths and compare the lengths of two objects by using the third object (e.g., if the crayon is shorter than the marker and the marker is shorter than the pencil then the crayon is shorter than pencil). ● Use an object to measure another object's length by laying multiple copies end to end with no overlaps giving measurements in whole number units. ● Tell and write time to the half-hour using "o'clock" and digital notation. ● Name the attributes of a given two-dimensional shape (square, triangle, rectangle, regular hexagon) distinguishing between defining and nondefining attributes. ● Draw and build shapes when given defining attributes (e.g., 3 sides, 4 sides, 3 corners, 4 corners). ● Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing with unknowns in all positions. ● Add or subtract whole numbers within 20 (various strategies: counting on, composition, etc.). ● Read and write numerals to 120 starting at any number and represent a number of objects with a written numeral.	Assessment: ● Formative and Summative Assessment ● Observation ● Performance task ● Games/Centers/Activities ● Oral Assessment ● Benchmarks 21st Century Skills and Career Integration: ● Identify age-appropriate financial goals ● Identify ways to earn and save Technology and Interdisciplinary Integration: ● Online games/activities ● Writing in math ● Measurement ● Math Reading List Core Instructional and Supplemental Materials: ● Go Math ● Teacher Created Materials ● Math manipulatives: rulers, meter stick, counters, blocks, clock, geometric shapes, pattern blocks, geoboard	NJ Student Learning Standards: 1.MD.1 1.MD.2 1.MD.3 1.G.1 1.G.1 1.OA.1 1.OA.6 1.NBT.1 Standards for Mathematical Practice: SMP1,2,4,5,6,7
Vocabulary: length, time (o'clock), half hour, attribute, two dimensional, square, triangle, rectangle, regular polygon, hexagon, defining attribute, non defining attribute, unknowns, measurement, measuring cup, ruler, model, category, picture graph, half, half circle, cone, cube, cylinder, open shape, pyramid, sphere, analog clock, digital clock		

Other Grade One Vocabulary: dime, nickel, penny, quarter, experiment

Mathematics Grade 1	Big Idea: Reasons with Shapes and Their Attributes	Unit 5
Evidence Statements: Part A - 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. - Partition circles and rectangles into two or four equal shares, describing the shares using halves, fourths, and, quarters, and use the phrases half of, fourth of, and quarter of. - Describe the whole circle (or rectangle) partitioned into two or four equal shares as "two of", or "four of" the shares. Part B - Add within 100, including adding a two-digit and a one-digit number, and adding a two-digit number and a multiple of 10; using concrete models, or drawings and strategies based on place value, properties of operations and/or the relationship between addition and subtraction; and relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten. - Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. - Add and subtract within 20 (fluently within 10). Use strategies such as: counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent sums (e.g., adding $6 + 7$ by creating the known equivalents $6 + 6 + 1 = 12 + 1 = 13$). - Organize, represent, and interpret, data with up to three categories, and compare the number counts of data points among the categories, e.g., equal to, more than, or less than another category.	Assessment: - Observation - Summative assessment - Oral assessment - Skills assessment - Benchmarks 21st Century Skills and Career Integration: - Identify age-appropriate financial goals - Identify ways to earn and save Technology and Interdisciplinary Integration: - Online games/activities - Writing in math - Math Reading List Core Instructional and Supplemental materials: - Go Math - Teacher Created Materials - Math Manipulatives: pattern blocks, geometric shapes and solids, fraction circles, number cards, 100 chart, place value blocks	NJ Student Learning Standards: 1.G.2 1.G.3 1.G.3 1.NBT.4 1.OA.1 1. OA.6 1.MD.4 Standards for Mathematical Practice: SMP 1,2,4,5,6, 7,8
Vocabulary: cone, cube, cylinder, open shape, pyramid, sphere, half, half-circle, measurement, model, ruler		

First Grade Modifications/Accommodations

ELL	Alternate responses, extended time, teacher modeling, simplified directions, vocabulary banks, manipulatives, nonverbal responses, sentence frames, prompts, partner talk
Special Education	Enlarged graph paper, small group instruction, highlighted instructions/keywords and/or computation signs, hands on activities, visual cues, number line, modified assessment, models
G&T	Enrichment activities, centers, projects, flexible grouping, interest centers, learning log, extension activities, small group

Grade 2

Mathematics Grade 2	Big Idea: (A) Add and Subtract within 100 and (B) Understand Place-Value to 1000	Unit #1
Evidence Statements: Part A ● Add and subtract within 20 to solve 1- and 2-step word problems with unknowns in any position. ● Identify ten tens as 100 and represent two hundred, three hundred, …, nine hundred with 2, 3, …, 9 hundred bundles (with zero tens and zero ones). ● Skip count by 5s and 10s up to 100 … beginning at any multiple of 5. Part B ● Represent a 3-digit number as specific amounts of 100s, 10s, and 1s. ● Read numbers to 1000 using base-ten numerals, number names, and expanded form. ● Write numbers to 1000 using base-ten numerals, number names, and expanded form. ● Use symbols >, =, <, to record the results of comparing two 3-digit numbers by decomposing the number into a number of 100s, 10s, and 1s.	Assessment: ● Formative and Summative assessment ● Performance assessment ● Benchmarks/Skills Assessment ● Exit tickets ● Observation 21st Century Skills and Career Integration: ● Identify age-appropriate financial goals ● Identify ways to earn and save Technology and Interdisciplinary Integrations: ● Online interactive games/activities ● Writing in math ● Math Reading List Core Instructional and Supplemental Materials: ● Go Math ● Teacher Created Materials ● Math Manipulatives: base ten blocks, 100s chart, counters, dice, number line	NJ Student Learning Standards: 2.OA.1 2.NBT.1 2.NBT.2 2.NBT.3 2.NBT.4 Standards for Mathematical Practice: SMP 1,2,4,6,7
Vocabulary: Place value, units, represent, bundles, groups, expanded form, compare, greater than, less than, quantity, value, equal, numeral, count by 100's, compose, amount, one-digit number, rounding, whole number		

Mathematics Grade 2	Big Idea: Understand the Meaning and Application of Addition and Subtraction	Unit #2
Evidence Statements: Part A - Recognize that in groups of even numbers objects can be counted by 2s and that in groups of odd numbers objects will not pair up evenly. - Write an equation to illustrate that all even numbers can be formed from the addition of two equal addends. - Count within 1000 by ones, 5s, 10s, and 100s beginning at any multiple of 1, 5, 10 or 100 (e.g., begin at 505 and skip count by 5 up to 605, or begin at 600 and skip count by 100 up to 1000). Part B - - Add up to four two-digit numbers based on place value and properties of operations. - Add and subtract fluently within ten using mental strategies (within 10). - Use a variety of strategies (place value, properties of operation, and/or the relationship between addition and subtraction) to add and subtract within 50.	Assessment: - Oral assessment - Formative and summative assessment - Exit tickets - Observation - Performance task - Benchmark 21st Century Skills and Career Integration: - Identify age-appropriate financial goals - Identify ways to earn and save Technology and Interdisciplinary Integration: - Online and interactive games/activities - Writing in math - Math Reading List Core Instructional and Supplemental Materials: - Go Math - Teacher Created Materials - Math Manipulatives: 100 chart, base ten blocks, place value chart, dice, number cards	NJ Student Learning Standards: 2.OA.2 2.OA.3 2.NBT.2 2.NBT.5 2.NBT. 6 Standards for Mathematical Practice: SMP 1,2,4,7
Vocabulary: Even, odd, pair, equation, sum, difference, addends, commutative and associative properties, two-digit and three digit numbers, skip count, relationship, one-step problems, solution, number sentence, mental math, work backwards, minuend, subtrahend		

Mathematics Grade 2	Big Idea: Compare Lengths – Measures in Standards Units – Foundations of Multiplication	Unit #3
Evidence Statements: Part A - Write an addition equation with repeated equal addends from a rectangular array with up to 5 rows and 5 columns and solve to find the total number. - Orally count within 1000 including skip-counting by 5s, 10s, and 100s. - Add fluently within 20 using mental strategies, such as decomposing and composing numbers using the ten as a benchmark number. - Choose a strategy (place value, properties of operation, and/or the relationship between addition and subtraction) to add and subtract within 100. Part B - Estimate or measure lengths of objects using appropriate tools (inches, centimeters, feet, and meters). - Compare measurements of an object taken with two different units of measure and explain that the difference is related to the size of unit chosen. - Compare lengths of two objects and determine how much longer one object is than another using the same standard of measure.	**Assessment:** - Oral assessment - Formative and summative assessment - Exit tickets - Observation - Performance task - Benchmark **21st Century Skills and Career Integration:** - Identify age-appropriate financial goals - Identify ways to earn and save **Technology and Interdisciplinary Integration:** - Online and interactive games/activities - Writing in math - Math Reading List **Core Instructional and Supplemental Materials:** - Go Math - Teacher Created Materials - Math Manipulatives: 100 chart, base ten blocks, place value chart, dice, number cards, meter stick/yard stick	NJ Student Learning Standards: 2.OA.4 2.MD.1 2.MD.2 2.MD. 3 2.MD. 4 2.NBT.2 2.NBT. 5 Standards for Mathematical Practice: SMP 1, 2, 5, 6, 7
Vocabulary: addends, (rectangular) array, rows, columns, length, units, total, benchmark, strategy, centimeter, English System of Measurement, foot, gram, inch, kilogram, mass, mean, measuring tape, median, meter, meter stick, metric system, millimeter, minute, mode, money, second, thermometer, US customary system, volume, yardstick/meter stick, decimal point, multiplication, dollar bill, observation, inference, information, prediction, likely, unlikely		

Mathematics Grade 2	Big Idea: Addition and Subtractions using Place-Value and Measurement	Unit #4
Evidence Statements: ● Apply properties of place value to mentally add or subtract 10 or 100 to/from a given number within 100-900. ● Apply addition and subtraction strategies based on place value and the properties of operations and explain why these strategies work using drawings or objects. For example, 37 + 12 = 49 because 37 +12 equals 30 + 7 + 10 + 2 (place value) which equals 30 + 10 + 7 + 2 (property of operations). ● Add and subtract within 100 in word problems involving lengths using a symbol to represent the unknown number. For example, if Angela needs 30 feet of ribbon for gifts, but she only has 17 feet, equations 17 + x = 30 and 30 – x = 17 both represent the x feet she still needs. ● Use a number line to represent the solution of whole number sums and differences related to length within 100 by using equally spaced points. ● Tell and write time using analog and digital clocks to the nearest five minutes using AM and PM. ● Identify, recognize, and solve word problems with dollar bills, quarters, dimes, nickels, and pennies using the $ and ¢ symbols appropriately. ● Add and subtract within 100 to solve 1- or 2-step word problems with unknowns in any position. ● Add and subtract fluently within 20 using mental strategies, such as decomposing and composing numbers using the benchmark of ten.	**Assessment:** ● Oral assessment ● Formative and summative assessment ● Exit tickets ● Observation ● Performance task ● Benchmark **21st Century Skills and Career Integration:** ● Identify age-appropriate financial goals ● Identify ways to earn and save **Technology and Interdisciplinary Integration:** ● Online and interactive games/activities ● Writing in math ● Math Reading List **Core Instructional and Supplemental Materials:** ● Go Math ● Teacher Created Materials ● Math Manipulatives: 100 chart, base ten blocks, place value chart, dice, number cards, number line, clocks, coins	NJ Student Learning Standards: 2.OA. 2.OA.,2 2.MD.8 2.MD.9 Standards for Mathematical Practice: SMP 1, 2, 4, 5, 7
Vocabulary: place value, properties of operations (commutative, associative), equation, unknown, sum, difference		

Mathematics Grade 2	Big Idea: (A) Shape Recognition and (B) Represent Data and Develop Understanding and Strategies for Place Value, Addition, and Subtraction	Unit #5
Evidence Statements: Part A • Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. (Sizes are compared visually or directly, not compared by measuring.) Identify triangles, quadrilaterals, pentagons, hexagons, and cubes. • Partition a rectangle into rows and columns of same-size squares and count to find the total number. • 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., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape. Part B • Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds. • Fluently add and subtract within 20 using mental strategies. By the end of Grade 2, know from memory all sums of two one-digit numbers. • Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. • Use tools of measurement to measure lengths of several objects to the nearest whole unit and represent the data on a line plot with appropriate whole number units on the horizontal scale. • 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 the graph.	Assessment: • Oral assessment • Formative and summative assessment • Exit tickets • Observation • Performance task • Benchmark 21st Century Skills and Career Integration: • Identify age-appropriate financial goals • Identify ways to earn and save Technology and Interdisciplinary Integration: • Online and interactive games/activities • Writing in math • Math Reading List Core Instructional and Supplemental Materials: • Go Math • Teacher Created Materials • Math Manipulatives: 100 chart, base ten blocks, place value chart, dice, number cards, number line, ruler, pattern blocks, geometric solids, fraction circles	NJ Student Learning Standards: 2.OA.2 2.MD.9 2.MD.10 2.NBT. 7 2.G. 1 2.G.2 2.G. 3 Standards for Mathematical Practice: SMP 1, 2, 3, 4, 5, 6, 7
Vocabulary: Model, compose/decompose (i.e. group/regroup), attribute, angle, face, triangle, quadrilateral, pentagon, hexagon, cube, line plot, horizontal,bar graph, picture graph, compare, half, third, fourth, partition, fraction, fraction strip, visual fraction model, quarter, quarter circle, line, solid, trapezoid, identical, volume, height, horizontal line, line of symmetry, horizontal scale, information, tallies		

Other Grade Two Vocabulary: prediction

Second Grade Modifications/Accommodations

ELL	Alternate responses, extended time, teacher modeling, simplified directions, vocabulary banks, manipulatives, nonverbal responses, sentence frames, prompts, partner talk
Special Education	Enlarged graph paper, small group instruction, highlighted instructions/keywords and/or computation signs, hands on activities, visual cues, number line, modified assessment, models
G&T	Enrichment activities, centers, projects, flexible grouping, interest centers, learning log, extension activities, small group

Grade 3

Mathematics Grade 3	Big Idea: Represent and Solve Problems Involving Multiplication and Division	Unit #1
Evidence Statements: ● Interpret products of whole numbers as repeated addition or equal groups of objects (up to 100). ● Explain division as a set of objects partitioned equally into a number of shares (up to 100). ● Determine the unknown in a division or multiplication equation with an unknown relating 3 whole numbers up to 100 (does not require students to solve from memory). ● Round whole numbers to the nearest 10 or 100. ● Fluently add and subtract (with regrouping) two 2-digit whole numbers within 100. ● Multiply one-digit whole numbers by multiples of 10 (10 - 90).	Assessments: ● Formative and Summative assessments ● Oral assessment ● Performance assessment ● Exit tickets ● Observations ● Benchmarks ● Skills assessment ● Math Manipulatives: number line, 100 chart, multiplication chart, place value blocks, counters 21st Century Skills and Career Integration: ● Explain what a budget is and why it is important. Technology and Interdisciplinary Integration: ● Online and interactive games/activities ● Writing in math ● Demonstrate cyber safety and digital citizenship Core Instructional and Supplemental Materials: ● Go Math ● Teacher Created Materials ● Math Manipulatives	NJ Student Learning Standards: 3.OA.1 3.OA.2 3.OA.4 3.NBT.1 3.NBT.2 3.NBT.3 Standards for Mathematical Practice: SPM 1,4,5,7
Vocabulary: product, repeated addition, equation, whole numbers, multiple, area, unit square, tiling, billion, divide, division, square numbers, quotient, remainder, estimation, factor pair, trial and error, operation, multiples of 10, unknown factor, multiplication table, ordinal numbers first through millionth		

Mathematics Grade 3	Big Idea: Properties of Operations	Unit #2
Evidence Statements: ● Recognize the Commutative, Associative, and Distributive Properties as strategies to add and multiply whole numbers. ● Solve division of whole numbers by representing the problem as an unknown factor problem. ● Multiply and divide within 40 using strategies such as the relationship between multiplication and division. ● Use multiplication within 40 to solve word problems using measurement quantities by creating drawings or arrays. ● Use multiplication within 40 to solve word problems modeled as equal groups or arrays by writing equations to represent equal groups or arrays. ● Recognize arithmetic patterns in addition or multiplication tables and explain the pattern using the properties of operations. ● Find the area of a rectangular array by counting the number of square units and compare that number with the product of the (whole number) side lengths.	Assessments: ● Formative and Summative assessments ● Oral assessment ● Performance assessment ● Exit tickets ● Observations ● Benchmarks ● Skills assessment 21st Century Skills and Career Integration: ● Explain what a budget is and why it is important. Technology and Interdisciplinary Integration: ● Online and interactive games/activities ● Writing in math ● Demonstrate cyber safety and digital citizenship Core Instructional and Supplemental Materials: ● Go Math ● Teacher Created Materials ● Math Manipulatives: number line, 100 chart, multiplication chart, place value blocks, counters, array/grid paper	NJ Student Learning Standards: 3.OA.5 3.OA.6 3.OA.7 3.OA.3 3.OA.3 3.OA.9 3.MD.6 3.MD.7 Standards for Mathematical Practice: SMP 1.2.3.4.5.6.7

Vocabulary: commutative, associative, distributive, factor, multiplication, array, equation, area, additive, comparison, equivalent, inequality, random number, base 10 numeral, operations with patterns, relative size, expanded notation, quantity, table, front end digit, multi-digit number, four digit number, constant

Mathematics Grade 3	Big Idea: (A) Solve problems involving measurement (time, volume, mass) and (B) Solve Problems Involving the Four Operations & Understand Fractions as Numbers on the Number Line	Unit #3

Evidence Statements:
 	
Part A
 	
- Tell and write time to the nearest minute to solve word problems with addition and subtraction involving time intervals in minutes.
- Solve one-step word problems by estimating, measuring, and comparing liquid volumes and masses using appropriate tools and units.
 	
Part B
 	
- Interpret the unit fraction *1/b* as the quantity formed by 1 of *b* equal parts of a whole and the fraction *a/b* as the quantity formed by *a* parts *1/b* e.g., 3 unit fractions of 1/4 add to the quantity 3/4.
- Represent the equal parts of shapes as a unit fraction (e.g., a pizza cut into 8 equal slices has 8 slices and each slice has quantity 1/8 of the whole pizza).
- Make a drawing of a number line depicting the position of *1/b* (with *b* = 2, 3, 4, 6, or 8). Represent the unit fraction *1/4* on the number line by dividing the number line between 0 & 1 into 4 equal lengths and naming the point at the end of the first length as the position of unit fraction *1/4*; apply the same method for locating the points 1/2, 1/3, 1/5, 1/6, and 1/8 on the number line.
- Make a drawing of a number line depicting a fraction *a/b* (with *a* < *b* and *b* = 2, 4, 3, 4, 6, or 8).
- Fluently multiply and divide within 50, using the relationship between multiplication and division (e.g., if 44 ÷ 2 equals 22, then 22 × 2 must equal 44).
- Find the value of an unknown (expressed as a letter) in an equation that is a representation of a two-step word problem (with any four operations) and assess the reasonableness of the value.
	Assessments:
	
	- Formative and Summative assessments
	- Oral assessment
	- Performance assessment
	- Exit tickets
	- Observations
	- Benchmarks
	- Skills assessment
	
	21st Century Skills and Career Integration:
	- Explain what a budget is and why it is important.
	
	Technology and Interdisciplinary Integration:
	- Online and interactive games/activities
	- Writing in math
	- Demonstrate cyber safety and digital citizenship
	
	Core Instructional and Supplemental Materials:
	- Go Math
	- Teacher Created Materials
	- Math Manipulatives: number line, 100 chart, multiplication chart, place value blocks, counters, clock, beakers, graduated cylinder, balance, fraction circles
		NJ Student Learning Standards:
		  3.MD.1
		  3.MD.2
		  3.NF.1
		  3.G.2
		  3.NF.2
		  3.NF.2a
		  3.NF.2b
		  3.OA.7
		  3.OA.8
		
		Standards for Mathematical Practice:
		
		SMP 2,3,4,5,6,7,8

Vocabulary: estimate, measure, volume, mass, unit fraction, fraction, reasonableness, improper fraction, common fraction (benchmark fraction), reduced form (simplify), time zone, beaker, capacity, elapsed time, liter, milliliter, time interval, ounce, pound, quantity, cubic unit,

Mathematics Grade 3	Big Idea: (A) Build Equivalent Fractions & Compare Fractions and Apply to Measurement Qualities in a variety of contexts and (B) Calculate area of simple rectilinear shapes (using unit squares) and multiply/divide within 50.	Unit #4
Part A ● Locate equivalent (equal) fractions on a number line (with denominators 2, 3, 4, 6, 8). ● Generate and explain equivalent fractions using visual fraction models, e.g., interpret 1/4 of a group of 12 pennies as 3 pennies: ℗℗℗ ℗℗℗ ℗℗℗ ℗℗℗ (see the 4 equal sub-groups as fourths). ● Generate and explain whole numbers as fractions, and locate them as fractions on a number line. ● Compare two fractions with the same numerator or the same denominator using the symbols >, =, <. ● Create and interpret scaled picture (or bar) graph to represent data in 1- and 2-step word problems. ● Depict data measured in fourths and halves of an inch with a line plot with scales marked with appropriate units. **Part B** ● Find the area of a plane figure understanding that unit squares are used to measure area of a rectilinear drawing. ● Fluently multiply and divide within 50, using the relationship between multiplication and division.	**Assessments:** ● Formative and Summative assessments ● Oral assessment ● Performance assessment ● Exit tickets ● Observations ● Benchmarks ● Skills assessment **21st Century Skills and Career Integration:** ● Explain what a budget is and why it is important. **Technology and Interdisciplinary Integration:** ● Online and interactive games/activities ● Writing in math ● Demonstrate cyber safety and digital citizenship **Core Instructional and Supplemental Materials:** ● Go Math ● Teacher Created Materials ● Math Manipulatives: number line, 100 chart, multiplication chart, place value blocks, counters, fraction circles, geoboards, grid paper/whiteboard	NJ Student Learning Standards: 3.NF.3a 3.NF.3b 3.NF.3c 3.NF.3d 3.MD.5a,b 3.OA.7 Standards for Mathematical Practice: SMP 1,2,3,5,6

Vocabulary: equivalent fractions, visual fraction models, numerator, denominator, greater than, less than, rectilinear drawing, two-step problem

Mathematics Grade 3	Big Idea: (A) Recognize and Classify Polygons (see list) by Properties; Measure Area and Perimeter and (B) Apply Whole Number Operations to Area and Perimeter	Unit #5
Evidence Statements: Part A ● Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories. ● Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters. ● Explain the relationship between tiling/multiplying side lengths to find the area of rectangles. ● Use the area model (with rectangles) to explain the Distributive Property. ● Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems. ● Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units). Part B ● Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. ● Fluently multiply and divide within 100, using the relationship between multiplication and division.	Assessments: ● Formative and Summative assessments ● Oral assessment ● Performance assessment ● Exit tickets ● Observations ● Benchmarks ● Skills assessment ● Math Manipulatives: number line, 100 chart, multiplication chart, place value blocks, counters, fraction circles, geoboards, grid paper/whiteboard 21st Century Skills and Career Integration: ● Explain what a budget is and why it is important. Technology and Interdisciplinary Integration: ● Online and interactive games/activities ● Writing in math ● Demonstrate cyber safety and digital citizenship Core Instructional and Supplemental Materials: ● Go Math ● Teacher Created Materials ● Math Manipulatives	NJ Student Learning Standards: 3.G.1 3.MD.8 3.MD.6 3.MD.7a,b,c,d 3.MD.3 3.MD.4 3.NBT.2 3.OA.7 Standards for Mathematical Practices SMP1,2,3,4,6,7

Vocabulary: rhombus, shape attributes, quadrilaterals, perimeter, polygon, square units, scaled picture, graph, algorithm, truncation, geometric figure, mile, square foot, formula, area formula, rectangular formula, side length, reflection, right angle, line segment, midpoint, square inch, square meter, triangle formula, units, base grid, symmetry, geometric pattern, sketch, angle, data, real world problems, pie chart, line graph, Venn diagram, parallel lines, perpendicular lines, three dimensional, two dimensional, area

Other Grade Three Vocabulary: direction, positive, negative, fair chance, abstract, concrete, fixed order, improbability, source, irrelevant data, structure, survey, random, certain

Third Grade Modifications/Accommodations

ELL	Alternate responses, extended time, teacher modeling, simplified directions, vocabulary banks, manipulatives, nonverbal responses, sentence frames, prompts, partner talk, advance notes
Special Education	Enlarged graph paper, small group instruction, highlighted instructions/keywords and/or computation signs, hands on activities, visual cues, number line, modified assessment, models, use of calculator
G&T	Enrichment activities, centers, projects, flexible grouping, interest centers, learning log, extension activities, small group

Grade 4

Mathematics Grade 4	Big Idea: Use the Four Operations with Whole Numbers to Solve Problems	Unit #1
Evidence Statements: ● Explain the quantitative relationship between places of a multi-digit whole number up to one million when moving from right to left. ● Compare numbers using >, =, and < for two multi-digit whole numbers up to one million (presented as base ten numerals, number names, or expanded form). ● Round multi-digit whole numbers up to one million to any place. ● Write multiplication equations from multiplicative comparisons given in words and describe a multiplication equation in words. ● Multiply or divide to solve word problems involving multiplicative comparisons. ● Write an equation to identify the arithmetic operation written in a word problem ● Fluently add and subtract multi-digit whole numbers using the standard algorithm.	Assessments: ● Formative and Summative assessments ● Oral assessment ● Performance assessment ● Exit tickets ● Observations ● Benchmarks ● Skills assessment 21st Century Skills and Career Integration: ● Identify potential sources of income ● Explain how income affects spending ● Identify common household expense categories and sources of income ● Explain why knowledge and skills acquired in elementary grades lay the foundation for future academic and career success. Technology and Interdisciplinary Integration: ● Demonstrate knowledge of real world problem solving using digital tools. ● Demonstrate cybersecurity and digital citizenship Core Instructional and Supplemental Materials: ● Go Math ● Teacher Created Materials ● Math Manipulatives: number line, 100 chart, place value blocks, counters	NJ Student Learning Standards: 4.NBT.1 4.NBT.2 4.NBT.3 4.OA.1 4.OA.2 4.NBT.4 Standards for Mathematical Practice: 1,2,5,6,7,8
Vocabulary: Multi-digit, compare, greater than, equal to, less than, million, base ten, expanded form, rounding, equation, multiply, divide, add, subtract, whole numbers, standard algorithm, multiplicative, dividend, divisor, long division, expression, exponents, composite number, label, scale		

Mathematics Grade 4	Big Idea: (A) Examine properties of whole numbers, compose equations (including unknowns) and compute with multi-digit whole numbers and (B) Generate equivalent fractions.	Unit #2
Evidence Statements: Part A: ● Use strategies to multiply multi-digit numbers and explain the answer using equations, rectangular arrays, and area models (up to 4-digits by 1-digit or 2-digits by 2-digits). ● Use strategies to divide multi-digit dividends by one-digit divisors and explain the answer using equations, rectangular arrays, and area models. ● Determine if a number between 1 and 100 is a prime or composite number ● Find all factor pairs for a whole number up to 100 and determine whether it is a multiple of a given 1-digit whole number. ● Compose equations from information supplied in word problems (with all 4 operations) using letters to represent unknowns (without solving). Part B: ● Recognize and generate equivalent fractions and explain why they are equivalent using visual fraction models. ● Compare two fractions with different numerators and different denominators using >, <, and = and justify the comparison by using visual fraction models	Assessments: ● Formative and Summative assessments ● Oral assessment ● Performance assessment ● Exit tickets ● Observations ● Benchmarks ● Skills assessment 21st Century Skills and Career Integration: ● Identify potential sources of income ● Explain how income affects spending ● Identify common household expense categories and sources of income ● Explain why knowledge and skills acquired in elementary grades lay the foundation for future academic and career success. Technology and Interdisciplinary Integration: ● Demonstrate knowledge of real world problem solving using digital tools. ● Demonstrate cybersecurity and digital citizenship Core Instructional and Supplemental Materials: ● Go Math ● Teacher Created Materials ● Math Manipulatives: number line, 100 chart, place value blocks, counters, fraction circles	NJ Student Learning Standards: 4.OA.3 4.NBT.5 4.NBT.6 4.NF.1 4.NF.2 4.OA.4 Standards for Mathematical Practice: 1,2,3,4,5,6,7,8
Vocabulary:Arrays, area, dividends, divisors, equivalent fractions, compare fractions, numerators, denominators, justify comparisons, visual fraction models, factors, factor pairs, compare fractions, prime, composite, multiple, unlike denominators, common denominators, common numerator, mixed number, reasonable, partition, multi-step problem, convert, unit fraction, greatest common factor, least common denominator, common factor		

Mathematics Grade 4	Big Idea: (A) Collect and Organize Measurement Data and Solve Problems Involving Addition, Subtraction, and Multiplication of Fractions (fractions by whole numbers) and (B) Properties of Operations with Multi-Digit Arithmetic	Unit #3
Evidence Statements: Part A: - Decompose a fraction into a sum of fractions with the same denominator in more than one way; record the decomposition as an equation and justify with a visual fraction model. - Add and subtract mixed numbers with like denominators by replacing each mixed number with an equivalent fraction. - Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem. - Multiply a fraction by a whole number using visual fraction models and equations, demonstrating a fraction a/b as a multiple of 1/b. - Solve 1-step word problems involving multiplication of a fraction by a whole number - Express measurement comparisons within a single system of measurement and record in a two-column chart within a single system of measurement Part B: - Compose equations from information supplied in word problems using letters to represent unknowns and solve the word problems with addition and subtraction. - Add and subtract two multi-digit whole numbers using the standard algorithm fluently (with speed and accuracy) without a calculator.	Assessments: - Formative and Summative assessments - Oral assessment - Performance assessment - Exit tickets - Observations - Benchmarks - Skills assessment 21st Century Skills and Career Integration: - Identify potential sources of income - Explain how income affects spending - Identify common household expense categories and sources of income - Explain why knowledge and skills acquired in elementary grades lay the foundation for future academic and career success. Technology and Interdisciplinary Integration: - Demonstrate knowledge of real world problem solving using digital tools. - Demonstrate cybersecurity and digital citizenship Core Instructional and Supplemental Materials: - Go Math - Teacher Created Materials - Math Manipulatives: number line, 100 chart, place value blocks, counters, fraction circles, ruler	NJ Student Learning Standards: 4.NF.3a,b 4.NF.3c 4.NF.3d 4.NF.4a,b 4.NF.4c 4.MD.1 4.OA.3 4.NBT.4 Standards for Mathematical Practice: 1,2,4,5,6,7
Vocabulary: Decompose a fraction, sum of fractions, add subtract mixed numbers, addition and subtraction of fractions, multiply a fraction, compose fractions, add and subtract whole numbers, visual fraction models, compose equations, unknowns, multi-digit whole numbers, standard algorithm, roman numeral		

Mathematics Grade 4	Big Idea: (A) Solve Problems Involving a Variety of Contexts (see details), Patterns, and Introduction of Decimal Notation and (B) Apply Fractions to Measurement Quantities	Unit #4
Evidence Statements: Part A: ● Generate number or shape patterns by using rules including words, models, or graphs, and identify apparent features of the pattern that were not explicit in the rule of the original pattern. For example, given the rule "Add 3" and the starting number 1 generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. ● Compose equations from information supplied in word problems, using letters to represent unknowns in formulas, and solve the word problems (with all four operations). ● Add two fractions with respective denominators of 10 and 100 by writing each fraction as a fraction with denominator 100. ● Use decimal notation to write fractions with denominators of 10 or 100 by writing each fraction as a fraction with denominator 100. ● Apply area and perimeter formulas for rectangles in real world math problems (whole numbers) Part B: ● Solve word problems involving simple fractions or decimals that incorporate measurement comparisons of like units ● Make a line plot to display a data set in measurements in fractions of a unit (1/2, 1/4, 1/8) and use it to solve problems involving addition and subtraction of fractions with like denominators. ● Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model.	Assessments: ● Formative and Summative assessments ● Oral assessment ● Performance assessment ● Exit tickets ● Observations ● Benchmarks ● Skills assessment 21st Century Skills and Career Integration: ● Identify potential sources of income ● Explain how income affects spending ● Identify common household expense categories and sources of income ● Explain why knowledge and skills acquired in elementary grades lay the foundation for future academic and career success. Technology and Interdisciplinary Integration: ● Demonstrate knowledge of real world problem solving using digital tools. ● Demonstrate cybersecurity and digital citizenship Core Instructional and Supplemental Materials: ● Go Math ● Teacher Created Materials ● Math Manipulatives: number line, 100 chart, place value blocks, counters, fraction circles, ruler, grid paper/whiteboards	NJ Student Learning Standards: 4.OA.5 4.OA.3 4.NF.5 4.NF.6 4.MD.3 4.MD.4 4.NF.7 4.MD.2 4.NF.4 Standards for Mathematical Practice: 1,2,3,4,6,7
Vocabulary: Number and shape patterns, models, graphs, pattern rules, compose equations, word problems, denominators, fraction, area, perimeter, rectangles, line plot, data set, like denominators, compare decimals, hundredths, comparisons, diagram, horizontal and vertical lines, scale, range, valid, tenths, thousandths, ounce, edge, length, unit cube, cubic units (cm, foot, in, m), diagram, equal probability, likelihood, probability		

Mathematics Grade 4	Big Idea: Measure/Classify Geometric Figures	Unit #5
Evidence Statements: ● Determine the measure of an angle in degrees. The two rays of an angle share a common endpoint. If that endpoint is located at the center of a circle, the fraction of the circular arc (between the points where the rays intersect the circle) measures the angle in degrees. A "degree" is defined as 1/360 (one degree angle) of the entire circle; and an angle that turns n one degree angles is said to measure n degrees. ● Add and subtract two multi-digit whole numbers using the standard algorithm fluently (with speed and accuracy) without a calculator. ● Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines and identify these in two-dimensional figures. ● Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specific size. Recognize right angles as a category, and identify right triangles. ● Use a protractor to measure angles in whole number degrees and sketch angles of specific measures. ● Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems using a symbol for an unknown angle measure. ● Draw lines of symmetry and identify line-symmetric figures.	Assessments: ● Formative and Summative assessments ● Oral assessment ● Performance assessment ● Exit tickets ● Observations ● Benchmarks ● Skills assessment 21st Century Skills and Career Integration: ● Identify potential sources of income ● Explain how income affects spending ● Identify common household expense categories and sources of income ● Explain why knowledge and skills acquired in elementary grades lay the foundation for future academic and career success. Technology and Interdisciplinary Integration: ● Demonstrate knowledge of real world problem solving using digital tools. ● Demonstrate cybersecurity and digital citizenship Core Instructional and Supplemental Materials: ● Go Math ● Teacher Created Materials ● Math Manipulatives: number line, 100 chart, place value blocks, counters, fraction circles, ruler, grid paper/whiteboards, pattern blocks, geometric solids, protractor, compass, geoboard	NJ Student Learning Standards: 4.MD.5a,b 4.NBT.4 4.G.1 4.G.2 4.MD.6 4.MD.7 4.G.3 Standards for Mathematical Practice: 1,3,5,7

Vocabulary: Angle, degrees, rays, endpoint, circle, arc, intersect, add, subtract, points, lines, line segments, right, acute, obtuse, perpendicular, parallel, protractor, lines of symmetry, abstract, concrete, point, right angle, scale drawing, scale map, horizontal axis, vertical axis, one degree angle, composite shape, rotation symmetry, plane, trapezoid formula, decimal, decimal point, rotation, multi-digit, place holder, multi-digit decimal, point, center, point, net

Fourth Grade Modifications/Accommodations

ELL	Alternate responses, extended time, teacher modeling, simplified directions, vocabulary banks, manipulatives, nonverbal responses, sentence frames, prompts, partner talk, advance notes
Special Education	Enlarged graph paper, small group instruction, highlighted instructions/keywords and/or computation signs, hands on activities, visual cues, number line, modified assessment, models, use of calculator
G&T	Enrichment activities, centers, projects, flexible grouping, interest centers, learning log, extension activities, small group

Grade 5

Mathematics Grade 5	Big Idea: (A) Evaluate Numerical Expressions and Patterns and Understand the Place Value System and (B) Extend Understanding and Strategies of Multi-Digit Multiplication and Division	Unit #1
Evidence Statements: Part A ● Evaluate numerical expressions with parentheses, brackets or braces. ● Write numerical expressions when given a word problem or a scenario in words and use words to interpret numerical expressions. ● Explain the "ten times" or 1/10 relationships for place values in multi-digit numbers moving right or left across the places. ● Recognize and explain patterns of the number of zeros and the placement of the decimal point in a product or quotient when a number is multiplied or divided by powers of 10. ● Compare decimals to thousandths based on the value of the digits in each place using the symbols >, =, < when presented as base ten numerals, number names, or expanded form. ● Round a decimal to any place. Part B ● Use the standard algorithm to multiply 3-digit whole numbers by 1-digit whole numbers. ● Calculate whole number quotients with 4-digit dividends and 2-digit divisors and explain answers with equations, rectangular arrays, and area models.	Assessments: ● Formative and Summative Assessments ● Performance assessments ● Benchmarks ● Exit tickets ● Observation ● Projects ● Skills assessment 21st Century Skills and Career Integration: ● Explain the meaning and purposes of taxes and tax deductions ● Construct simple personal savings and spending plan based on various sources of income Technology and Interdisciplinary Integration: ● Select and use digital tools and resources to accomplish a variety of tasks including solving problems. ● Practice cybersecurity and digital citizenship ● Writing in math Core and Supplemental Instructional Materials: ● Go Math ● Teacher Created Materials ● Math Manipulatives: number cards, number line, place value chart, area model charts	NJ Student Learning Standards: 5.OA.1 5.OA.2 5.NBT.1 5.NBT.2 5.NBT.3 5.NBT.4 5.NBT.5 5.NBT.6 Standards for Mathematical Practice: 1,2,3,4,6,7
Vocabulary: evaluate, numerical expression, simple expression, algorithm, equation, array, interpret, product, quotient, square root and square root symbol, non-zero, algebra		

Mathematics Grade 5	Big Idea: Geometric Measures and Understanding Volume	Unit #2
Evidence Statements: ● Measure volume by counting the total number of same size cubic units required to fill a figure without gaps or overlaps. ● Choose an appropriate cubic unit based on the attributes of the 3-dimensional figure you are measuring. ● Show that the volume of a right rectangular prism found by counting all the unit cubes is the same as the formulas $V = l \times w \times h$ or $V = B \times h$. ● Explain how both volume formulas relate to counting the cubes in one layer and multiplying that value by the number of layers (height). ● Find the volume of a composite solid figure composed of two non-overlapping right rectangular prisms. ● Apply formulas to solve real world and mathematical problems involving volumes of right rectangular prisms and composites of same.	Assessments: ● Formative and Summative Assessments ● Performance assessments ● Benchmarks ● Exit tickets ● Observation ● Projects ● Skills assessment 21st Century Skills and Career Integration: ● Explain the meaning and purposes of taxes and tax deductions ● Construct simple personal savings and spending plant based on various sources of income Technology and Interdisciplinary Integration: ● Select and use digital tools and resources to accomplish a variety of tasks including solving problems. ● Practice cybersecurity and digital citizenship ● Writing in math ● Measurement Core and Supplemental Instructional Materials: ● Go Math ● Teacher Created Materials ● Math Manipulatives: geometric solids, place value blocks, array/grid paper or whiteboard	NJ Student Learning Standards: 5.MD.3b 5.MD.4 5.MD.5a 5.MD.5b 5.MD.5c 5MD.5 5.OA.2 Standards for Mathematical Practice: 1,2,3,4,6,7
Vocabulary: volume, volume formula, length, width, height, depth, composite volume, additive volume, attribute, solid figure, cubic unit		

Mathematics Grade 5	Big Idea: (A) Operations with Multi-Digit Whole Numbers, Decimals, and Fractions and (B) Apply to Problem Solving (varied contexts, measurement conversion, etc.)	Unit #3
Evidence Statements: Part A - Describe the place value of numeral digits relative to both the place to the right and the place to the left (decimal to hundredths and whole numbers to billions). - Add, subtract, multiply, and divide decimals to hundredths using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; and, explain the reasoning used. - Add and subtract fractions (including mixed numbers) with unlike denominators - Multiply multi-digit whole numbers using the standard algorithm without calculators. Part B - Convert measurement units within the same system (e.g., centimeters to meters) to solve multi-step problems. - Solve word problems involving adding or subtracting fractions including unlike denominators, and determine if the answer to the word problem is reasonable, using estimations with benchmark fractions. - Interpret a fraction as a division of the numerator by the denominator; solve word problems where division of whole numbers leads to fractional or mixed number answers.	Assessments: - Formative and Summative Assessments - Performance assessments - Benchmarks - Exit tickets - Observation - Projects - Skills assessment 21st Century Skills and Career Integration: - Explain the meaning and purposes of taxes and tax deductions - Construct simple personal savings and spending plant based on various sources of income Technology and Interdisciplinary Integration: - Select and use digital tools and resources to accomplish a variety of tasks including solving problems. - Practice cybersecurity and digital citizenship - Writing in math - Measurement Core and Supplemental Instructional Materials: - Go Math - Teacher Created Materials - Math Manipulatives: number cards, grid paper, metric conversion chart, meter stick, fraction number line	NJ Student Learning Standards: 5.NF.11 5.NF.2 5.NF.3 5.NF.4a 5.NF.4b 5.NF.5a,b 5.NBT.5 Standards for Mathematical Practice: 1,2,3,4,6,7,8
Vocabulary: standard algorithm, numerical expression, order of operations (PEMDAS), braces, brackets, parentheses, measurement system (standard, metric), rule, properties: associative/commutative/distributive		

Mathematics Grade 5	Big Idea: Fraction Multiplication by a Whole Number and Scaling; Dividing Unit Fractions	Unit #4
- Multiply fractions by whole numbers and draw visual models or create story contexts. Interpret the product (a/b) x q as a parts of a whole partitioned into b equal parts added q times. In general, if q is a fraction c/d, then (a/b) x $(c/d) = a(1/b) \times c(1/d) = ac \times (1/b)(1/d) = ac(1/bd) = ac/bd.$ - Find the area of a rectangle with fractional side lengths by tiling unit squares and multiplying side lengths. - Explain how a product is related to the magnitude of the factors. - Solve real world problems involving multiplication of fractions (including mixed numbers), using visual fraction models or equations to represent the problem. - Divide a unit fraction by a non-zero whole number and interpret by creating a story context or visual fraction model. - Divide a whole number by a unit fraction and interpret by creating a story context or visual fraction model. - Solve real world problems involving division of unit fractions by whole numbers or whole numbers by unit fractions.	Assessments: - Formative and Summative Assessments - Performance assessments - Benchmarks - Exit tickets - Observation - Projects - Skills assessment 21st Century Skills and Career Integration: - Explain the meaning and purposes of taxes and tax deductions - Construct simple personal savings and spending plant based on various sources of income Technology and Interdisciplinary Integration: - Select and use digital tools and resources to accomplish a variety of tasks including solving problems. - Practice cybersecurity and digital citizenship - Writing in math - Measurement Core and Supplemental Instructional Materials: - Go Math - Teacher Created Materials - Math Manipulatives: number/fraction cards, fraction number line, grid paper/whiteboard, fraction bars/circles	NJ Student Learning Standards: 5.NBT.1 5.NBT.7 5.MD.1 5.NF.6 5.NF.7a 5.NF.7b 5.NF.7c Standards for Mathematical Practice: 1,2,3,5,6,7,8
Vocabulary: numerator, denominator, algorithm, simpler form, convert, reciprocal, conversion, inverse, factoring out (cross cancel)		

Mathematics Grade 5	Big Idea: (A) Introduce (first quadrant) Coordinate Geometry and related skills of Line Plots, Patterns, etc. and (B) Expand Understanding of Classification of Geometric Figures	Unit #5
Evidence Statements: Part A ● Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. ● 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. ● Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns and graph the ordered pairs on a coordinate plane. *For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence.* Explain informally why this is so. ● Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. *For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.* ● Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition, subtraction, multiplication, and division. Part B ● Identify attributes of a two-dimensional shape based on attributes of the groups and categories in which the shape belongs. ● Classify two- dimensional figures in a hierarchy based on properties.	**Assessments:** ● Formative and Summative Assessments ● Performance assessments ● Benchmarks ● Exit tickets ● Observation ● Projects ● Skills assessment 21st Century Skills and Career Integration: ● Explain the meaning and purposes of taxes and tax deductions ● Construct simple personal savings and spending plant based on various sources of income Technology and Interdisciplinary Integration: ● Select and use digital tools and resources to accomplish a variety of tasks including solving problems. ● Practice cybersecurity and digital citizenship ● Writing in math ● Measurement Core and Supplemental Instructional Materials: ● Go Math ● Teacher Created Materials ● Math Manipulatives: coordinate grids, geoboards, pattern blocks, geometric shapes	NJ Student Learning Standards: 5.NBT.7 5.G.1 5.G.2 5.OA.3 5.G.3 5.G.4 5.MD.2 Standards for Mathematical Practice: 1,2,3,4,5,6,7
Vocabulary: line plot, data set, perpendicular, intersection, axes (X, Y), independent and dependent variable, odds, corresponding term, ordered pair, generate, cluster, straight edge, sample, repeating decimal, coordinate plane, quadrants (I, II, III, IV), origin, coordinate system, coordinate pair (ordered pair), data value, plot, quartile, rectangular prism, parallelogram, properties and classification of triangles, net surface area, reproduction, space, vertex		

Fifth Grade Modifications/Accommodations

ELL	Alternate responses, extended time, teacher modeling, simplified directions, vocabulary banks, manipulatives, nonverbal responses, sentence frames, prompts, partner talk, advance notes
Special Education	Enlarged graph paper, small group instruction, highlighted instructions/keywords and/or computation signs, hands on activities, visual cues, number line, modified assessment, models, use of calculator
G&T	Enrichment activities, centers, projects, flexible grouping, interest centers, learning log, extension activities, small group

Grade 6

Mathematics Grade 6	Big Idea: (A) Extend Strategies with Operations of Fractions, Decimals, and Integers and (B) Introduce and Apply Measures of Statistical Variability and Center	Unit 1
Evidence Statements: Part A ● Compute quotients of fractions. ● Construct visual fraction models to represent quotients and explain the relationship between multiplication and division of fractions. ● Solve real-world problems involving quotients of fractions and interpret the solutions in the context given. ● Fluently add, subtract, multiply and divide multi-digit decimals and whole numbers using standard algorithms. ● Use positive and negative numbers to describe quantities in real-world situations. Part B ● Calculate, compare, and interpret measures of center and variability in a data set to answer a statistical question. (Including median, mean, interquartile range, mean absolute deviation and overall pattern).	Assessments: ● Formative and Summative Assessments ● Performance assessments ● Benchmarks ● Exit tickets ● Observation ● Projects ● Skills assessment 21st Century Skills and Career Integration: ● Construct a simple personal savings and spending plan based on various sources of income ● Analyze labor market trends Technology and Interdisciplinary Integration: ● Demonstrate knowledge of real word problem using digital tools ● Calculate data in a spreadsheet ● Model online behavior related to cyber security and digital citizenship ● Writing in math Core and Supplemental Instructional Materials: ● Go Math ● Teacher Created Materials ● Math Manipulatives: fraction bars/circles, number line	NJ Student Learning Standards: 6.NS.1 6.NS.2 6.NS.3 6.NS.5 6.SP.1 6.SP.2 6.SP.3 6.SP.5c 6.SP.5d Standards for Mathematical Practice: SMP 1,2,3,4,5,6
Vocabulary: (meaning of) quotients of fractions, positive and negative values, measures of center, measures of variability, median, mean, interquartile range, mean absolute deviation, cube number, number theory, dependent variable, independent variable, intercept, growth rate, spread, set, quantitative, distribution, deviation, data distribution, data extreme, data gap, outlier, central values, property, network, logic (all, and, if/then, none, sum, not or), deductive reasoning, inductive reasoning, non-routine problem, average, rate of change, base-10, base-60, power of 10, solution algorithm, solution probabilities, verification, recursive process/sequence, vertical number line diagram, reference set, complex fractions, statistics, decimal notation, properties of operations, multiple strategies for proofs, constant difference, biased sample, consistency, control group, gain, generalization, reliability, representative sample, sampling error,		

simulated samples, treatment, treatment group, relatively prime, simplification, benchmarking, pattern multiplication, pattern division , overestimation, underestimation,

Mathematics Grade 6	Big Idea: (A)Explore and Apply Positive and Negative Rational Numbers in Varied Contexts (4-quadrants, number lines, account balances) and (B) Solve Rate/Ratio problems	Unit 2
Evidence Statements: Part A - Locate positive and negative rational numbers on the number line and explain the meaning of absolute value of a rational number as indicating locations on opposite sides of zero on the number line and as magnitude for a positive or negative quantity in a real-world situation. - Use statements of inequality to determine relative positions of two rational numbers on a number line; Write and explain statements of order for rational numbers in real-world contexts. - Plot ordered pairs in all four quadrants on the coordinate plane and describe their reflections. - Solve real world problems mathematically by graphing points in all four quadrants of the coordinate plane. Use the absolute value of the differences of their coordinates to find distances between points with the same first coordinate or same second coordinate. - Distinguish comparisons of absolute value from statements about order. For example, recognize that an account balance less than –30 dollars represents a debt greater than 30 dollars. Part B - Explain the relationship of two quantities or measures of a given ratio and use ratio language to describe the relationship between the two quantities. For example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." *"For every vote candidate A received, candidate C received nearly three votes."* - Use rate language in the context of a ratio relationship to describe a unit rate a/b associated with a ratio a:b with b≠0. *For example, "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar." "We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger."* - Use ratio and rate reasoning problems that include making tables of equivalent ratios, solving unit rate problems, finding percent of a quantity as a rate per 100. - Use ratio and rate reasoning to convert measurement units (manipulate and transform units appropriately when multiplying or dividing quantities).	Assessments: - Formative and Summative Assessments - Performance assessments - Benchmarks - Exit tickets - Observation - Projects - Skills assessment 21st Century Skills and Career Integration: - Construct a simple personal savings and spending plan based on various sources of income Technology and Interdisciplinary Integration: - Demonstrate knowledge of real word problem using digital tools - Calculate data in a spreadsheet - Model online behavior related to cyber security and digital citizenship - Writing in math Core and Supplemental Instructional Materials: - Go Math - Teacher Created Materials - Math Manipulatives: number line, coordinate grids, geoboard	NJ Student Learning Standards: 6.NS.6 6.NS.7 6.NS.8 6.RP.1 6.RP.2 6.RP.3 Standards for Mathematical Practice: SMP 2,4,5

Vocabulary: positive and negative rational numbers, absolute value, inequality, ordered, quadrants, reflections, ratio, rate, unit rate, 3rd quartile, integer, signed number, statement of inequality, statement of order, cardinal and ordinal numbers, counting procedure, relative magnitude, significant digits, linear pattern, infinitely many, pattern recognition

Mathematics Grade 6	Big Idea: Read, Write, and Evaluate Expressions	Unit #3
Evidence Statements: ● Use mathematical language to identify parts of an expression. ● Write and evaluate numerical expressions involving whole number exponents. ● Read, write, and evaluate expressions in which letters stand for numbers (Including formulas that arise from real-world contexts). ● Apply the properties of operations to generate equivalent expressions, including the distributive property; for example, *express 36 + 8 as 4(9 + 2) and y + y + y = 3y*. ● Identify when two expressions are equivalent; for example, *Are the two expressions equal? 81 + 18 and 9(9 + 2)*. ● Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two numbers less than or equal to 12; apply to expressions.	Assessments: ● Formative and Summative Assessments ● Performance assessments ● Benchmarks ● Exit tickets ● Observation ● Projects ● Skills assessment 21st Century Skills and Career Integration: ● Construct a simple personal savings and spending plan based on various sources of income Technology and Interdisciplinary Integration: ● Demonstrate knowledge of real word problem using digital tools ● Calculate data in a spreadsheet ● Model online behavior related to cyber security and digital citizenship ● Writing in math Core and Supplemental Instructional Materials: ● Go Math ● Teacher Created Materials ● Math Manipulatives: number cards	NJ Student Learning Standards: 6.EE.1 6.EE.2 6.EE.3 6.EE.4 6.NS.4 Standards for Mathematical Practice: SMP 3,4,8
Vocabulary: Expression, exponent, exponential notation, root, formula, variable, distributive property, equivalent expression, greatest common factor, least common multiple, (addition, multiplication, division, subtraction) property of equality, problem context, real world context, algebraic expression, term, collect like terms, combine like terms, coefficient, set, expansion, linear arithmetic sequence,		

Mathematics Grade: 6	Big Idea: Equations and Inequalities	Unit #4
Evidence Statements ● Use variables to represent numbers and write expressions when solving real world or mathematical problems. ● Solve an equation or inequality to answer the question: which values from a specified set, if any, make the equation or inequality true? and check the solution using substitution to determine whether a given number in a specified set makes an equation or inequality true. (including formulas V=lwh and V=Bh) . ● Write and solve one step equations that represent real world or mathematical problems. ● Write an inequality of the form x > c or x < c to represent a constraint or condition in a diagram. ● Use variables to represent two quantities that change in relationship to one another in a real-world problem and write an equation to express one quantity, thought of as the dependent variable, in terms of another quantity, thought of as the independent variable. real world or mathematical problem and represent them on a number line diagram. ● Examine and express variables in an equation using graphs and tables. For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation d = 65t to represent the relationship between distance and time. ● Analyze the relationship between the dependent and independent variables.	**Assessments:** ● Formative and Summative Assessments ● Performance assessments ● Benchmarks ● Exit tickets ● Observation ● Projects ● Skills assessment 21st Century Skills and Career Integration: ● Construct a simple personal savings and spending plan based on various sources of income Technology and Interdisciplinary Integration: ● Demonstrate knowledge of real word problem using digital tools ● Calculate data in a spreadsheet ● Model online behavior related to cyber security and digital citizenship ● Writing in math ● Dependent and independent variables in science experiments Core and Supplemental Instructional Materials: ● Go Math ● Teacher Created Materials ● Math manipulatives: number cards, graph paper	NJ Student Learning Standards: 6.EE.5 6.EE.7 6.EE.8 6.EE.9 Standards for Mathematical Practice: 3, 4, 6, 7, 8

Vocabulary: linear equation, system of equations, additive and multiplicative inverse, nonlinear, linear, strip and tape diagrams, box and whisker, box plots, histogram, tree diagram, stem and leaf plot, properties of inequalities and equalities, variable, pictorial representation, written representation, shrinking deviation, blueprint, associate, chance event, chance process, complimentary event, compound event, conjecture, discrepancy, outcome, frequency, trend, double number line diagram, linear unit, pattern recognition, constraint

Mathematics Grade 6	Big Idea: (A) Apply Ratio and Proportion to 2-D and 3-D Geometry and (B) Data Analysis	Unit #5
Evidence Statements: Part A ● Find the area of right triangles, other triangles, special quadrilaterals and polygons by composing into rectangles or decomposing into triangles and other shapes to solve real world or mathematical problems. ● Represent three dimensional figures using nets made of rectangles and triangles and use the nets to find the surface area of the figures in the context of solving real world and mathematical problems. ● Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes. Show that the volume is the same as it would be if found by multiplying the edge lengths. ● Draw polygons in the coordinate plane given the coordinates of the vertices and use the coordinates to solve real-world distance, perimeter, and area problems. ● Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems. ● Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas $V = l\,w\,h$ and $V = b\,h$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems. ● 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 mathematical problems. ● 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. Part B: ● Display numerical data in plots on the number line (including dot plots, histograms, and box plots) and summarize in relation to their context. ● Summarize numerical data sets in relation to their context, such as by: a. Reporting the number of observations. b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.	**Assessments:** ● Formative and Summative Assessments ● Performance assessments ● Benchmarks ● Exit tickets ● Observation ● Projects ● Skills assessment **21st Century Skills and Career Integration:** ● Construct a simple personal savings and spending plan based on various sources of income **Technology and Interdisciplinary Integration:** ● Demonstrate knowledge of real word problem using digital tools ● Calculate data in a spreadsheet ● Model online behavior related to cyber security and digital citizenship ● Writing in math **Core and Supplemental Instructional Materials:** ● Go Math ● Teacher Created Materials ● Math manipulatives: graph paper, nets, ruler, geometric solids, pattern blocks, protractor, coordinate grids, circle templates	NJ Student Learning Standards: 6.G.1 6.G.2 6.G.3 6.G.4 (6.SP.4) (6.SP.5a-b) Standards for Mathematical Practice: 1, 2, 4, 6

Vocabulary: circle formula, circumference, pi, plane figure, adjacent angle, alternate interior angle, angle bisector, complementary angle, inscribed angle, interior angle, similar, similarity, supplementary angle, vertical angle, congruent, line segment congruence, irregular polygon, tetrahedron, slice, coordinate geometry, tessellation, radius, enlarging transformation, reflection transformation, scale transformation, shape transformation, slide, slide transformation, shrinking transformation, diameter, similar, slope, slope/intercept formula, graphic representation, planar cross section, axis of symmetry, line of symmetry, parallel figures, perpendicular bisector, first coordinate, rectangular coordinates, second coordinate, signed number, perspective, quadrant, orientation, compass, equal ratios, percent above 100, percent below 100, proportion, proportional gain, rate, ratio, unit rate, magnitude, multiple strategies for proofs, straight edge, reflection, transformation, proportion, linear geometric sequence

Sixth Grade Modifications/Accommodations

ELL	Alternate responses, extended time, teacher modeling, simplified directions, vocabulary banks, manipulatives, nonverbal responses, sentence frames, prompts, partner talk, advance notes
Special Education	Enlarged graph paper, small group instruction, highlighted instructions/keywords and/or computation signs, hands on activities, visual cues, number line, enlarged coordinate grid, modified assessment, models, use of calculator
G&T	Enrichment activities, centers, projects, flexible grouping, interest centers, learning log, extension activities, small group

Grade 7

Mathematics Grade 7	Big Idea: The Number System (A)Integers (B) Rational Numbers	Unit #1
Evidence Statements: Part A: ● Describe and model, on a horizontal and vertical number line, real-world situations in which rational numbers are combined. ● Apply the additive inverse property to subtraction problems and develop the argument that the distance between two points is the absolute value of the difference between their coordinates. ● Explain why a divisor cannot be zero and why division of integers results in a rational number. ● Model the multiplication and division of signed numbers using real-world contexts, such as taking multiple steps backwards. Part B: ● Convert a rational number to a decimal using long division and explain in oral or written language why the decimal is either a terminating or repeating decimal. ● Apply properties of operations as strategies to add, subtract, multiply, and divide rational numbers. ● Solve mathematical and real-world problems involving addition, subtraction, multiplication, and division of rational numbers.	Assessment: ● Formative and summative assessment ● Oral assessment ● Performance assessment ● Exit tickets ● Observation ● Projects ● Benchmarks 21st Century Skills and Career Integration: ● Distinguish between cash, check, credit or debit card ● Construct a budget to save for long-term, short term, and charitable goals ● Develop a system for keeping and using financial records Technology and Interdisciplinary Integration: ● Demonstrate knowledge of a real world problem using digital tools ● Graph and calculate data within a spreadsheet and present a summary of the results Core Instructional and Supplemental Materials: ● EnVision Math ● Teacher Created Materials ● Math manipulatives: number line	NJ Student Learning Standards: 7.NS.1 7.NS.2 7.NS.3 Standards for Mathematical Practice: 3,4,7
Vocabulary: operations, fractions, rational numbers, repeating digit, terminating decimal, negative exponent, approximate		

Mathematics Grade 7	Big Idea: Expressions and Equations	Unit #2
Evidence Statements: • Apply the properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients (including additive and multiplicative inverse, distributive, commutative, and associative properties). • Use equivalent expressions to demonstrate the relationship between quantities and determine simpler solutions to a problem, such as a + 0.05a = 1.05a means that "increase by 5%" is the same as "multiply by 1.05." • Solve multi-step real life and mathematical problems with rational numbers in any form (fractions, decimals, percents) by applying properties of operations and converting rational numbers between forms as needed, and then assess the reasonableness of results using mental computation and estimation strategies. • Use variables to represent quantities in a real-world or mathematical problem by constructing simple equations and inequalities to represent problems. • *Equations of the form px + q = r and p(x + q) = r and inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers.* • Fluently solve equations and inequalities and graph the solution set of the inequality; interpret the solutions in the context of the problem.	Assessment: • Formative and summative assessment • Oral assessment • Performance assessment • Exit tickets • Observation • Projects • Benchmarks 21st Century Skills and Career Integration: • Distinguish between cash, check, credit or debit card • Construct a budget to save for long-term, short term, and charitable goals • Develop a system for keeping and using financial records Technology and Interdisciplinary Integration: • Demonstrate knowledge of a real world problem using digital tools • Graph and calculate data within a spreadsheet and present a summary of the results Core Instructional and Supplemental Materials: • EnVision Math • Teacher Created Materials • Math manipulatives:coordinate grids, algebra tiles and/or balance	NJ Student Learning Standards: 7.EE.1 7.EE.2 7.EE.3 7.EE.4 Standards for Mathematical Practice: 1,2,7
Vocabulary: properties of operations, equivalent expressions, numerical expressions, algebraic expressions, equations, solution set, random variable, simple equation		

Mathematics Grade 7	Big Idea: (A) Ratios, Proportions, and (B)Percents	Unit #3
Evidence Statements: Part A: ● Calculate and interpret unit rates of various quantities involving ratios of fractions that contain like and different units using real world examples such as speed and unit price. *For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4 miles per hour, equivalently 2 miles per hour.* ● Determine if a proportional relationship exists between two quantities e.g. by testing for equivalent ratios in a table or graph on the coordinate plane and observing whether the graph is a straight line through the origin. ● Identify the constant of proportionality (unit rate) from tables, graphs, equations, diagrams, and verbal descriptions. ● Write equations to model proportional relationships in real world problems. *For example, if a recipe that serves 6 people calls for 2 ½ cups of sugar. How much sugar is needed if you are serving only 2 people?* ● Represent real world problems with proportions on a graph and describe how the graph can be used to explain the values of any point (x, y) on the graph including the points (0, 0) and (1, r), recognizing that r is the unit rate. Part B: ● Solve multistep ratio and percent problems using proportional relationships, including scale drawings of geometric figures, simple interest, tax, markups and markdowns, gratuities and commissions, and fees. ● Use freehand, mechanical (i.e. ruler, protractor) and technological tools to draw geometric shapes with given conditions (e.g. scale factor), focusing on constructing triangles.	**Assessment:** ● Formative and summative assessment ● Oral assessment ● Performance assessment ● Exit tickets ● Observation ● Projects ● Benchmarks **21st Century Skills and Career Integration:** ● Distinguish between cash, check, credit or debit card ● Construct a budget to save for long-term, short term, and charitable goals ● Develop a system for keeping and using financial records **Technology and Interdisciplinary Integration:** ● Demonstrate knowledge of areal world problem using digital tools ● Graph and calculate data within a spreadsheet and present a summary of the results **Core Instructional and Supplemental Materials:** ● EnVision Math ● Teacher Created Materials ● Math manipulatives: coordinate grids, grid or graph paper, geometric shapes, ruler, protractor, meter stick	NJ Student Learning Standards: 7.RP.1 7.RP.2 7.RP.3 7.G.1 7.G.2 Standards for Mathematical Practice: 1,2,4,5

Vocabulary: proportional relationships, geometrical figures, constant of proportionality		

Mathematics Grade 7	Big Idea: (A) Statistics and (B) Probability	Unit #4
Evidence Statements: Part A: ● Solve multistep ratio and percent problems using proportional relationships (*simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error).* ● Distinguish between valid and invalid samples from a population by determining if the sample is representative of the subgroups within the population (*e.g. if the class had 50% girls and the sample had 25% girls, then the number of girls was not representative of the whole population*). ● Use random sampling to produce a representative sample, develop valid inferences about a population with an unknown characteristic of interest, and compare the variation in estimates using multiple samples of the same and different size. ● Visually and numerically compare the means and variations of two distinct populations (such as the mean height of different sports teams) to draw informal comparative inferences about measures of center and variability using graphical representations and statistical calculations. ● Interpret and express the likelihood of a chance event as a number between 0 and 1, relating that the probability of an unlikely event happening is near 0, a likely event is near 1, and 1/2 is neither likely nor unlikely. Part B: ● Conduct experimental probability events that are both uniform (*rolling a number cube multiple times*) and non-uniform (*tossing a paper cup to see if it lands up or down*) to collect and analyze data to make predictions for the approximate relative frequency of chance events. ● Develop uniform and non-uniform theoretical probability models	Assessment: ● Formative and summative assessment ● Oral assessment ● Performance assessment ● Exit tickets ● Observation ● Projects ● Benchmarks 21st Century Skills and Career Integration: ● Distinguish between cash, check, credit or debit card ● Construct a budget to save for long-term, short term, and charitable goals ● Develop a system for keeping and using financial records Technology and Interdisciplinary Integration: ● Demonstrate knowledge of a real world problem using digital tools ● Graph and calculate data within a spreadsheet and present a summary of the results Core Instructional and Supplemental Materials: ● EnVision Math ● Teacher Created Materials ● Math manipulatives: dice, counters	NJ Student Learning Standards: 7.RP.3 7.SP.1 7.SP.2 7.SP.3 7.SP.4 7.SP.5 7.SP.6 7.SP.7 7.SP.9 Standards for Mathematical Practice: 1,2,4

by listing the probabilities of all possible outcomes in an event, for instance, the probability of the number cube landing on each number being 1/6. Then, conduct an experiment of the event using frequencies to determine the probabilities of each outcome and use the results to explain possible sources of discrepancies in theoretical and experimental probabilities.

Vocabulary: proportional relationships, random sampling, inferences, population, comparative inferences, chance, probability models, random process, simulation, simulation model, observed frequency, relative frequency, informal

Mathematics Grade 7	Big Idea: Geometry	Unit #5
Evidence Statements: ● Use variables to represent quantities in a real-world or mathematical problem; write and fluently solve simple equations and inequalities, interpret the solutions in the context of the problem and graph the solution set on a number line. [Please note this unit addresses standard 7.EE.4 again to assess fluency.] ● Use tools strategically to solve multi-step real-world and mathematical problems involving positive and negative rational numbers in any form (converting between forms as needed) and determine the reasonableness of the answers. [Please note this unit addresses standard 7.EE.3 again to assess fluency.] ● Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms. ● Write and solve simple algebraic equations involving supplementary, complementary, vertical, and adjacent angles for multi-step problems and finding the unknown measure of an angle in a figure. ● Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle. ● Describe, using drawings or written descriptions, the 2-dimensional figures that result when 3-dimensional	Assessment: ● Formative and summative assessment ● Oral assessment ● Performance assessment ● Exit tickets ● Observation ● Projects ● Benchmarks 21st Century Skills and Career Integration: ● Distinguish between cash, check, credit or debit card ● Construct a budget to save for long-term, short term, and charitable goals ● Develop a system for keeping and using financial records Technology and Interdisciplinary Integration: ● Demonstrate knowledge of a real world problem using digital tools ● Graph and calculate data within a spreadsheet and present a summary of the results Core Instructional and Supplemental Materials: ● EnVision Math ● Teacher Created Materials ● Math manipulatives: algebra tiles, coordinate grids	NJ Student Learning Standards: 7.EE.3 7.EE.4 7.G.3 7.G.4 7.G.5 7.G.6 Standards for Mathematical Practice: 2,4,8

figures (right rectangular prisms and pyramids) are sliced from multiple angles given both concrete models and a written description of the 3-dimensional figure.		

Vocabulary: algebraic expressions, numerical expressions, geometrical figures, angles measure, area, surface area, volume, plane section, visual overlap, characteristic

Seventh Grade Modifications/Accommodations

ELL	Alternate responses, extended time, teacher modeling, simplified directions, vocabulary banks, manipulatives, nonverbal responses, sentence frames, prompts, partner talk, advance notes
Special Education	Enlarged graph paper, small group instruction, highlighted instructions/keywords and/or computation signs, hands on activities, visual cues, number line, modified assessment, models, use of calculator, enlarged coordinate grid
G&T	Enrichment activities, centers, projects, flexible grouping, interest centers, learning log, extension activities, small group

Grade 8

Mathematics Grade 8	Big Idea: Planar Geometry	Unit #1
Evidence Statements: ● Utilize the properties of rotation, reflection, and translation to model and relate pre-images of lines, line segments, and angles to their resultant image through physical representations and/or Geometry software. ● Apply an effective sequence of rotations, reflections, and translations to prove that two dimensional figures are congruent. ● Use the coordinate plane to locate pre-images of two-dimensional figures and determine the coordinates of a resultant image after applying dilations, rotations, reflections, and translations. ● Recognize dilation as a reduction or an enlargement of a figure and determine the scale factor. ● Apply an effective sequence of transformations to determine that figures are similar when corresponding angles are congruent and corresponding sides are proportional. Write similarity statements based on such transformations. ● Justify facts about angles created when parallel lines are cut by a transversal. ● Justify facts about the exterior angles of a triangle, the sum of the measures of the interior angles of a triangle and the angle-angle relationship used to identify similar triangles.	Assessment: ● Formative and summative assessment ● Oral assessment ● Performance assessment ● Exit tickets ● Observation ● Projects ● Benchmarks Technology and Interdisciplinary Integration: ● Demonstrate knowledge of a real world problem using digital tools ● Use and/or develop a simulation that solves a real work problem ● Model appropriate cyber safety and digital citizenship Core Instructional and Supplemental Materials: ● EnVision Math ● Teacher Created Materials ● Manipulatives: algebra tiles, coordinate grids, geometric solids, protractors, rulers	NJ Student Learning Standards: 8.G.1 8.G.2 8.G.3 8.G.4 8.G.5 Standards for Mathematical Practice: 1,2,3,4,5,7,8

Vocabulary:
congruence, similarity, Angle Angle criterion, criteria for angle congruence, dilation, translation, transversal, dimension, criteria for triangle congruence, angle sum, proof

Mathematics Grade 8	Big Idea: The Number System: (A) Rational Numbers and Integers (B) Exponent Properties and Scientific Notation	Unit #2
Evidence Statements: Part A: ● Compare rational and irrational numbers to demonstrate that the decimal expansion of irrational numbers do not repeat; show that every rational number has a decimal expansion which eventually repeats and convert such decimals into rational numbers. ● Use rational numbers to approximate and locate irrational numbers on a number line and estimate the value of expressions involving irrational numbers. Part B: ● Apply the properties of integer exponents to simplify and write equivalent numerical expressions. ● Use scientific notation to estimate and express the values of very large or very small numbers and compare their values (how many times larger/smaller is one than the other). ● Perform operations using numbers expressed in scientific notation, including problems where both decimals and scientific notation are used (interpret scientific notation generated when technology has been used for calculations). ● In real-world problem solving situations choose units of appropriate size for measurement of very small and very large quantities.	Assessment: ● Formative and summative assessment ● Oral assessment ● Performance assessment ● Exit tickets ● Observation ● Projects ● Benchmarks Technology and Interdisciplinary Integration: ● Demonstrate knowledge of a real world problem using digital tools ● Model appropriate cyber safety and digital citizenship Core Instructional and Supplemental Materials: ● EnVision Math ● Teacher Created Materials ● Math manipulatives: algebra tiles, number line, place value chart	NJ Student Learning Standards: 8.NS.1 8.NS.2 8.EE.1 8.EE.3 8.EE.4 Standards for Mathematical Practice: 1,2,4,6,7,8

Vocabulary:
irrational numbers, rational numbers, expressions, equations, radicals, integer exponents, decimal expansion, rational approximation, cube root, cube root symbol, perfect cube, perfect square, scientific notation

Mathematics Grade 8	Big Idea: Equations	Unit #3
Evidence Statements: • Graph and analyze the different representations of proportional relationships and interpret the unit rate as the slope of the graph which indicates the rate of change. • Derive the equation of a line ($y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b) and use similar triangles to explain why the slope (m) is the same between any two points on a non-vertical line in the coordinate plane. • Solve linear equations in one variable with rational number coefficients that might require expanding expressions using the distributive property and/or combining like terms, including examples with one solution, infinite solutions, or no solution. • Solve systems of linear equations in two variables by inspection, algebraically, and/or graphically (estimate solutions) to demonstrate solutions correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously. • Construct a function to model the linear relationship between two variables and determine the rate of change and initial value of the real world data it represents from either graphs or tabulated values. • Sketch a graph of a function from a qualitative description and give a qualitative description of a graph of a function.	Assessment: • Formative and summative assessment • Oral assessment • Performance assessment • Exit tickets • Observation • Projects • Benchmarks 21st Century Skills and Career Integration: • Relate how career choices, education choices, skills affect income. Technology and Interdisciplinary Integration: • Demonstrate knowledge of a real world problem using digital tools • Graph and calculate data within a spreadsheet • Model appropriate cyber safety and digital citizenship Core Instructional and Supplemental Materials: • EnVision Math • Teacher Created Materials • Math manipulatives: algebra tiles, number line, place value chart, coordinate grid	NJ Student Learning Standards: 8.EE.5 8.EE.6 8.EE.7 8.EE.8 8.F.4 8.F.5 Standards for Mathematical Practice: 2,3,4,5,6
Vocabulary: proportional relationships, lines, linear equations, simultaneous linear equations, functions, reflexive property of equality, symmetric property of equality,		

substitution property of equality, transitive property of equality, polynomial, possible value, ordered triple, qualitative, inspection, point of intersection, analogous, polynomial addition, polynomial subtraction polynomial subtraction, polynomial multiplication

Mathematics Grade 8	Big Idea: (A) Functions and (B) Geometry (Pythagorean Theorem)	Unit #4
Evidence Statements: Part A: ● Define functions as a rule that assigns one output to each input and determine if data represented as a graph or in a table is a function. ● Compare two functions each represented in a different way (numerically, verbally, graphically, and algebraically) and draw conclusions about their properties (rate of change and intercepts). ● Utilize equations, graphs, and tables to classify functions as linear or nonlinear, recognizing that ● $y = mx + b$ is linear with a constant rate of change. Part B: ● Evaluate square roots and cubic roots of small perfect squares and cubes respectively and use square and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$ where p is a positive rational number. Identify $\sqrt{2}$ as irrational. ● Explain a proof of the Pythagorean Theorem and its converse. ● Utilize the Pythagorean Theorem to determine unknown side lengths of right triangles in two and three dimensions to solve real-world and mathematical problems ● Use the Pythagorean Theorem to determine the distance between two points in the coordinate plane.	Assessment: ● Formative and summative assessment ● Oral assessment ● Performance assessment ● Exit tickets ● Observation ● Projects ● Benchmarks 21st Century Skills and Career Integration: ● Relate how the demand for certain skills determines an individual's earning power Technology and Interdisciplinary Integration: ● Demonstrate knowledge of a real world problem using digital tools ● Graph and calculate date within a spreadsheet ● Model appropriate cyber safety and digital citizenship Core Instructional and Supplemental Materials: ● EnVision Math ● Teacher Created Materials ● Math manipulatives: algebra tiles, number line, geometric shapes, coordinate grid	NJ Student Learning Standards: 8.F.1 8.F.2 8.F.3 8.G.6 8.G.7 8.G.8 Standards for Mathematical Practice: 1,4,6,7

Vocabulary:
evaluate, functions, Pythagorean Theorem, converse, linear functions, table of values, Fibonacci sequence, input, output, nonlinear function, decreasing function, increasing function, initial value, linear relationship, input/output table, linear association, linear model, argument

Mathematics Grade 8	Big Idea: (A)Statistics and (B) Spatial Geometry	Unit #5
Evidence Statements: Part A: ● Using a linear equation to model real life problems then solve it by interpreting the meaning of the slope and the intercept. ● Construct and interpret scatter plots for bivariate measurement data and identify and interpret data patterns (clustering, outliers, positive or negative association, possible lines of best fit, and nonlinear association). ● Construct frequency/relative frequency tables to analyze and describe possible associations between two variables. Part B: ● Know and apply the appropriate formula for the volume of a cone, a cylinder, or a sphere to solve real-world and mathematical problems.	Assessment: ● Formative and summative assessment ● Oral assessment ● Performance assessment ● Exit tickets ● Observation ● Projects ● Benchmarks 21st Century Skills and Career Integration: ● Explain the effect of the economy on personal income and consumer decisions. ● Determine the most appropriate use of various financial products and services. Technology and Interdisciplinary Integration: ● Demonstrate knowledge of a real world problem using digital tools ● Graph and calculate data within a spreadsheet. ● Model appropriate cyber safety and digital citizenship Core Instructional and Supplemental Materials: ● EnVision Math ● Teacher Created Materials ● Math manipulatives: algebra tiles, number line, coordinate grids, geometric solids	NJ Student Learning Standards: 8.SP.1 8.SP.2 8.SP.3 8.SP.4 8.G.9 Standards for Mathematical Practice: 1,3,4,6,7,8

Vocabulary:
Fit, two-way frequency table, association, birative data, birative measurement data, categorical data, categorical variable, closeness, model fit, negative association, positive association, nonlinear association, scatter plot, causation, patterns of associations, volume, cone, sphere

Eighth Grade Modifications/Accommodations

ELL	Alternate responses, extended time, teacher modeling, simplified directions, vocabulary banks, manipulatives, nonverbal responses, sentence frames, prompts, partner talk, advance notes
Special Education	Enlarged graph paper, small group instruction, highlighted instructions/keywords and/or computation signs, hands on activities, visual cues, number line, modified assessment, models, use of calculator, enlarged coordinate grid paper
G&T	Enrichment activities, centers, projects, flexible grouping, interest centers, learning log, extension activities, small group