Kindergarten	Unit 1: Number Computation		Suggested Length: Ongoing
Essential Questions	*Program of Studies* and Core Content	Key Terms and Vocabulary	Classroom Instruction and Assessment Student will:
1. How do we use numbers each day?	***Program of Studies*** ❑ *NC-1 Read, write, count, and model whole numbers, 0-5.* ❑ *NC-2 Order groups of objects according to quantity.* ❑ *NC-3 Explore appropriate estimation procedures.* ❑ *NC-4 Read, write, count, and model whole numbers, 0-10.* ❑ *NC-5 Order and compare numbers from 0-10, using physical models.* ❑ *NC-7 Read, write, count, and model whole numbers, 0-20.* ❑ *NC-23 Develop beginning fractional concepts (e.g., dividing an object into two equal parts).* ❑ *NC-29 Develop meaning of addition and subtraction using physical objects.* ❑ *NC-30 Understand addition and develop concept of subtraction using concrete materials.* **Core Content** ❑ **MA-EP-1.1.1 Students will:** ❑ **apply multiple representations (e.g., drawings, manipulatives, base-10 blocks, number lines, expanded form, symbols) to describe whole numbers (0 to 9,999):** ❑ **apply multiple representations (e.g., drawings, manipulatives, base-10 blocks, number lines, expanded form, symbols) to describe fractions (halves, thirds, fourths);** ❑ **apply these numbers to represent real-world problems and** ❑ **explain how the base 10 number**	❑ Whole number ❑ Number line	❑ Count backwards using number cards 0 – 10 and Hundred Number Chart. DOK 1 ❑ Match sets and numbers using number cards, pennies, dot cubes, and teddy bears counters. DOK 1 ❑ Identify, read, write, and order numbers to 30 using number cards, pencil, paper, Bingo playing cards, number lines, teddy bear counters, money, and decks of playing cards. DOK 2 ❑ Identifies equivalent sets using double six dominoes. DOK 1 ❑ Identify numbers on a Hundred Number Chart daily during Calendar. DOK 1 ❑ Identify numbers before, after, and between using

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Essential Questions	*Program of Studies* and Core Content	Key Terms and Vocabulary	Classroom Instruction and Assessment Student will:
	system relates to place value. DOK 2 ❑ MA-EP-1.1.2 Students will read, write, and rename whole numbers (0 to 9,999) and apply to real-world and mathematical problems.		number lines and teddy bear counters. DOK 1 ❑ Identify ordinal position using teddy bear counters, shape pieces, students, and classroom objects. DOK 1 ❑ Identify doubles using double six dominoes. DOK 1 ❑ Identify smallest and largest shape using rectangles. DOK 1
	❑ **MA-EP-1.1.3 Students will compare (<, >, =) and order whole numbers to whole numbers, decimals to decimals (as money only) and fractions to fractions (limited to pictorial representations). DOK 1**	❑ Compare ❑ More ❑ Same - Equal ❑ Less ❑ Ordinal position ❑ Half ❑ One fourth ❑ Greatest ❑ Least	❑ Compare sets of objects and numbers using number lines, teddy bear counters, playing cards, and dot cubes. DOK 2 ❑ Identifies more, same, and less using pictograph, number lines, teddy bear counters, dot cubes, and playing cards. DOK 1 ❑ Identify one half and one fourth using quart containers, half-gallon containers, food coloring, measuring cups, and jelly sandwiches. DOK 1
	❑ **MA-EP-1.2.1 Students will apply and describe appropriate strategies for estimating quantities of objects and computational results (limited to addition and subtraction). DOK 2**	❑ Estimate	❑ Estimate and count collections of objects to 100 using pennies, candy, macaroni, etc. DOK 2
	❑ **MA-EP-1.3.1 Students will analyze real-world problems to identify the appropriate mathematical operations, and will apply operations to solve real-world problems with the following constraints:** ❑ **add and subtract whole numbers with three digits or less;** ❑ **multiply whole numbers of 10 or less;** ❑ **add and subtract fractions with like denominators less than or equal to four and** ❑ **add and subtract decimals related to money. DOK 2**	❑ Penny ❑ Nickel ❑ Dime ❑ Quarter ❑ One dollar ❑ Add ❑ Subtract ❑ Equals	❑ Count by 1's, 2's, 5's, and 10's using teddy bear counters, pattern blocks, number cards, nickels, pennies, dot cubes, dimes, and Hundred Number Chart. DOK 1 ❑ Act out addition and subtraction story problems using teddy bear counters, pennies, and pattern blocks. DOK 1 ❑ Draw pictures and finds answers for addition and subtraction story problems using chart paper, markers, shape pieces, demonstration nickels, and linking cubes. DOK 2 ❑ Identify a set of objects into equal groups, using crackers or candy, or small objects, such as beans, cereal, or pennies, or playing cards. DOK 1 ❑ Identify and count pennies, dimes, nickels, quarters, and one-dollar bills. DOK 1 ❑ Write money amounts using cent symbol by purchasing various classroom items. DOK 2

Kindergarten	Unit 1: Number Computation		Suggested Length: Ongoing
Essential Questions	*Program of Studies* and Core Content	Key Terms and Vocabulary	Classroom Instruction and Assessment Student will:
			❑ Select coins for a given amount using classroom items, pennies, dimes, nickels, and quarters. DOK 1 ❑ Use positional words and phrases. DOK 1 ❑ Identify right and left. DOK 1
	❑ MA-EP-1.3.2 Students will skip-count forward and backward by 2s, 5s, 10s, and 100s. ❑ MA-EP-1.3.3 Students will divide two digit numbers by single digit divisors (with or without remainders) in real-world and mathematical problems. ❑ **MA-EP-1.5.1 Students will identify and provide examples of odd numbers, even numbers, and multiples of a number and will apply these numbers to solve real-world problems. DOK 2** ❑ MA-EP-1.5.2 Students will use the commutative properties of addition and multiplication, the identity properties of addition and multiplication and the zero property of multiplication in written and mental computation.	❑ Even ❑ Odd	❑ Identify even and odd numbers using teddy bear counters and Hundred Number Chart. DOK 1

Kindergarten	Unit 2: Geometry Measurement		Suggested Length: Ongoing
Essential Questions	*Program of Studies* and Core Content	Key Terms and Vocabulary	Classroom Instruction and Assessment Student will:
1. How do we use geometry and measurement	***Program of Studies*** ❑ *GM-15 compare and order by size (e.g., large/small).* ❑ *GM-16 determine length, weight, and volume*		

Kindergarten	Unit 2: Geometry Measurement		Suggested Length: Ongoing
Essential Questions	*Program of Studies* and Core Content	Key Terms and Vocabulary	Classroom Instruction and <u>Assessment</u> Student will:
each day?	*with nonstandard units.* ❑ *GM-17 identify coins.* ❑ *GM-18 relate time to daily activities.* **<u>Core Content</u>** ❑ **MA-EP-2.1.1 Students will apply standard units to measure length (to the nearest half-inch or nearest centimeter) and to determine:** ❑ **weight (nearest pound);** ❑ **time (nearest quarter hour);** ❑ **money (identify coins and bills by value)and** ❑ **temperature (Fahrenheit). DOK 1** ❑ MA-EP-2.1.2 Students will use standard units to measure temperature in Fahrenheit and Celsius to the nearest degree. ❑ MA-EP-2.1.3 Students will choose appropriate tools (e.g., thermometer, scales, balances, clock, ruler) for specific measurement tasks. ❑ MA-EP-2.1.4 Students will use nonstandard and standard units of measurement to identify measurable attributes of an object (length – in, cm; weight – oz, lb) and make an estimate using appropriate units of measurement. ❑ MA-EP-2.1.5 Students will use units of measurement to describe and compare attributes of objects to include length (in, cm), width, height, money (cost), temperature (F), and weight (oz, lb), and sort objects and compare attributes by shape, size, and color. ❑ MA-EP-2.1.6 Students will estimate weight,	❑ Side/edges ❑ Length ❑ Height ❑ Weight ❑ Distance ❑ Inches ❑ Quart	❑ Identify which of two events takes more or less time. DOK1 ❑ Use indirect comparison to compare the heights or lengths of objects using string. DOK 1 ❑ Compare and order objects by weight using balance, full containers, and teddy bear counters. DOK 2 ❑ Weigh objects using nonstandard units using balance and teddy bear counters. DOK 1 ❑ Compare the capacity of containers using quart containers, half-gallon containers, food coloring, and a liquid-measure cup. DOK 2 ❑ Identify and use a one-cup measuring cup using clear containers and food coloring. DOK 1 ❑ Identify quarts using quart containers, half-gallon containers, food coloring, and a liquid-measure cup. DOK 1 ❑ Follow a recipe and measure using liquid-measure cup, food coloring, and clear containers. DOK 1 ❑ Estimate and measure length using nonstandard units using paper strips and linking cubes. DOK 2 ❑ Estimate and measure distance using nonstandard units using paper feet. DOK 2 ❑ Make and cover designs using pattern blocks. DOK 2 ❑ Identify today's date. DOK 1 ❑ Identify yesterday, today, and tomorrow. DOK 1 ❑ Identify days of the week and months of the year. DOK 1 ❑ Identify seasons. DOK 1 ❑ Identify morning, afternoon, evening, and night. DOK 1 ❑ Tell and show time to the hour using demonstration clock and student clocks. DOK 1 ❑ Compare and order objects by length using unsharpened

Kindergarten	Unit 2: Geometry Measurement		Suggested Length: Ongoing
Essential Questions	*Program of Studies* and Core Content	Key Terms and Vocabulary	Classroom Instruction and Assessment Student will:
	length, perimeter, area, angle measures and time using appropriate units of measurement. ❑ MA-EP-2.2.1 Students will describe, define, give examples of and use to solve real-world and mathematical problems nonstandard and standard (U.S. Customary, metric) units of measurement to include length (in., cm.), time, money, temperature (Fahrenheit) and weight (oz., lb.). ❑ MA-EP-2.2.2 Students will determine elapsed time by half hours. ❑ MA-EP-2.2.3 Students will convert units within the same measurement system including money (dollars, cents), time (minutes, hours, days, weeks, months), weight (ounce, pound), and length (inch, foot). ❑ **MA-EP-3.1.1 Students will describe and provide examples of basic geometric elements and terms (sides, edges, faces, bases, vertices, angles), and will apply these elements to solve real-world and mathematical problems. DOK 2** ❑ **MA-EP-3.1.2 Students will describe and provide examples of basic two-dimensional shapes (circles, triangles, squares, rectangles, trapezoids, rhombuses, hexagons) and will apply these shapes to solve real-world and mathematical problems. DOK 2**	❑ Sort ❑ Compare ❑ Compare ❑ Contrast ❑ Estimate ❑ Measure ❑ Balance ❑ Circle ❑ Square ❑ Rectangle ❑ Triangle ❑ Parallelogram ❑ Trapezoid ❑ Hexagon ❑ Cube ❑ Cylinder ❑ Sphere	pencils, drinking straws, paper strips, and linking cubes. DOK 2 ❑ Measure length using standard units (inches) using drinking straws. DOK 1 ❑ Measure capacity using nonstandard units using quart containers, half-gallon containers, food coloring, and a liquid-measure cup. DOK 1 ❑ Order objects by height using foam cylinder and cylindrical objects. DOK1 ❑ Identify, sort, and compare geometric shapes using shape and tangram pieces. DOK 1 ❑ Compare and order objects by size using tangrams, a foam sphere, spherical objects, and paper rectangles. DOK 2 ❑ Identify, sort, and compare common geometric solids. DOK 1

Kindergarten	Unit 2: Geometry Measurement		Suggested Length: Ongoing
Essential Questions	*Program of Studies* and Core Content	Key Terms and Vocabulary	Classroom Instruction and Assessment Student will:
	❑ **MA-EP-3.1.3 Students will describe and provide examples of basic three-dimensional objects (spheres, cones, cylinders, pyramids, cubes), and will apply the attributes to solve real-world and mathematical problems. DOK 1** ❑ MA-EP-3.1.5 Students will identify and describe congruent figures in real-world and mathematical problems. ❑ **MA-EP-3.2.1 Students will describe and provide examples of line symmetry in real-world and mathematical problems or will apply one line of symmetry to construct a simple geometric design. DOK 2** ❑ MA-EP-3.3.1Students will locate points on a grid representing a positive coordinate system.	❑ Congruent ❑ Line of symmetry ❑ Slide ❑ Turn ❑ Flip	❑ Create congruent shapes and designs using geoboards and geobands. DOK 1 ❑ Identify a line of symmetry and create symmetrical designs using pictures of butterflies, butterfly cutouts, poster paint, and pattern blocks .DOK 1 ❑ Make and copy designs on a geoboard. DOK 2 ❑ Explore slides, turns, and flips (transformations) using tangrams. DOK 2 ❑ Make and cover designs using tangrams. DOK 2 ❑ Identify similar shapes using tangrams. DOK 1 ❑ Solve spatial problems using pattern blocks, geobaords, geobands, and tangrams. DOK 2

Kindergarten	Unit 3: Probability/Statistics		Suggested Length: Ongoing
Essential Questions	*Program of Studies* and Core Content	Key Terms and Vocabulary	Classroom Instruction and Assessment Student will:
1. How does understanding probability help us explore ideas and information?	***Program of Studies*** ❑ *PS-1 make a graph using manipulatives.* ❑ *PS-2 read data displayed on concrete graph.* ❑ *PS-3 display data on a pictograph.* **Core Content** ❑ **MA-EP-4.1.1 Students will analyze and make inferences from data displays (drawings, tables/charts, tally tables,**	❑ Pictograph	❑ Record data on a chart. DOK 2

Kindergarten	Unit 3: Probability/Statistics		Suggested Length: Ongoing
Essential Questions	*Program of Studies* and Core Content	Key Terms and Vocabulary	Classroom Instruction and Assessment Student will:
	pictographs, bar graphs, circle graphs with two or three sectors, line plots, two-circle Venn diagrams). DOK 3 ❑ MA-EP-4.1.2 Students will collect data. ❑ MA-EP-4.1.3 Students will organize and display data. ❑ MA-EP-4.2.1 Students will determine the mode (of a set of data with no more than one mode) and the range of a set of data. ❑ MA-EP-4.3.1 Students will pose questions that can be answered by collecting data ❑ MA-EP-4.4.3 Students will describe and give examples of the probability of an unlikely event (near zero) and a likely event (near one).	❑ Sort ❑ Graph ❑ Most ❑ Fewest ❑ Same	❑ Sort objects and identify a sorting rule using pattern blocks, teddy bear counters, buttons, nickels, dimes, quarters, pennies, and one-dollar bills. DOK 2 ❑ Graph a picture on a pictograph. DOK 1 ❑ Make a real graph. DOK 1 ❑ Identify most, fewest, and same on a graph using teddy bear counters and pattern blocks. DOK1 ❑ Determine questions for a survey. DOK 2 ❑ Describe the likelihood of an event. DOK 2

Kindergarten	Unit 4: Algebraic Thinking		Suggested Length: Ongoing
Essential Questions	*Program of Studies* and Core Content	Key Terms and Vocabulary	Classroom Instruction and Assessment Student will:
1. How is understanding patterns and identifying missing numbers important in	***Program of Studies*** ❑ *A-1 identify patterns in real life.* ❑ *A-2 reproduce and extend patterns using manipulatives.* ❑ *A-3 identify and describe patterns in real life and numerical situations.* ❑ *A-4 create, reproduce, and extend patterns of movements and sounds.*		

Kindergarten	Unit 4: Algebraic Thinking		Suggested Length: Ongoing
Essential Questions	*Program of Studies* and Core Content	Key Terms and Vocabulary	Classroom Instruction and Assessment Student will:
problem solving?	❑ *A-7 solve simple equations (e.g., 1 + 1 = __).* **Core Content** **MA-EP-5.1.1Students will extend simple patterns (e.g., 2,4,6,8,…;◊Δ◊Δ…). DOK 2** **MA-EP-5.1.2 Students will describe functions (input-output) through pictures and words. DOK 2** MA-EP-5.1.3 Students will determine the value of an output given a function rule and an input value. **MA-EP-5.3.1 Students will model real-world and mathematical problems with simple number sentences (equations and inequalities) with a missing value (e.g., 2 + ? =7, __< 6), and apply simple number sentences to solve mathematical and real-world problems. DOK 2**	❑ Extend	❑ Identify, read, and extend color patterns using linking cubes, teddy bear counters, pattern strips, and pattern blocks. DOK 2 ❑ Identify, read, and extend shape patterns using shape pieces and pattern blocks. DOK 2 ❑ Identify, extend, and create sound and movement patterns with their bodies and linking cubes. DOK 2 ❑ Identify the missing shape in a matrix using shape pieces. DOK 1 ❑ Identify the missing number in a sequence using teacher and student number cards. DOK 1 ❑ Identify a missing number in a function using story problems. DOK 1