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Transitional Kindergarten (K4) STEM SSM

Unit # & Title	Lessons	Standards	Summary
Math Unit 1 Numbers to 10	21	NS 1 PK.CC.1 - 4	The focus of this unit is on practicing rote counting and understanding numbers to 10. Students learn how to write them, spell them, and count quantities within that amount.
Math Unit 2 Patterns & Sorting	10	AF 1 & 2 PK.CC.6 PK.OA.2 PK.MD.2	Students build mathematical reasoning by recognizing and extending simple patterns. They also practice ordering language (first, last, next, before, after) with patterns. Students also practice sorting, as well as identifying which object does/doesn't belong with a given set of objects.
Math Unit 3 Comparing Numbers	13	NS 2.1 & 2.2 PK.CC.5	Students work on comparing groups of objects by matching and counting. They also explore the idea of one more and one less.
Math Unit 4 Beginning Geometry	18	G.1 PK.G.1 - 5	Students work on identifying, building, drawing and composing 2-D and 3-D shapes.
Math Unit 5 Beginning Measurement	14	M.1 & G.2 PK.MD.1 - 2	This unit focuses on describing the position of objects as well as describing their measurable attributes (size, length, height, weight, color, etc).
Math Unit 6 Adding & Subtracting	12	PK.OA.1	Students work on composing and decomposing numbers within 10. They also start to understand addition as combining or adding more, and subtracting as taking away
Science Unit 1 Pushes and Pulls	14	K.PS2-1 K.PS2-2	Students will think about the guiding question "How can you move something heavy?" by observing the effect of pushing and pulling motions on different objects. Students will also explore speed and direction with the guiding question "What happens when two toy cars collide?"
Science Unit 2 Energy from the Sun	14	K.PS3-1 K.PS3-2	Students will explore the guiding question "Why do we use umbrellas at the beach" to understand the effects of the sun on our daily lives.

Kindergarten (K5) STEM SSM

Unit # & Title	Lessons	Standards	Summary
Math Unit 1 Numbers to 20	20	K.CC.1 - 5	Students practice counting and understanding numbers to 20 during this first unit. They work on how to write numbers, spell them in word form, and count quantities within that amount.
Math Unit 2 Matching & Sorting Shapes	15	K.CC.5 K.G.1 - 4 K.MD.3	Students work on understanding 2-D & 3-D shapes, practicing identifying, describing, building, and drawing them. They also begin work with sorting and matching, using their new understanding of shapes and attributes to sort items into categories. Counting work continues as they are asked to count the amount in each category after sorting.
Math Unit 3 Composing & Decomposing Shapes	9	K.G.5 - 6 1.G.3	Students continue working with shape by decomposing and composing them. Additional geometry work is also covered such as beginning to explore equal shares (halves and fourths), and lines of symmetry.
Math Unit 4 Comparing, Adding & Subtracting Numbers to 20	16	K.CC.6 - 7 K.OA.1 - 5 K.NBT.1	Examination of numbers to 20 continues, with students comparing sets and numbers to 20. They also work on composing and decomposing numbers, finding pairs to 10 as well as representing teens numbers as a ten and loose ones. Students start number stories to contextualize part-whole relationships and join & separate scenarios.
Math Unit 5 Measurement & Data	18	K.MD.1 - 3 1.MD.4	Students practice describing objects by measurable attributes (big, tall, short, etc) and comparing different objects by attribute. Sorting work continues, making categories by different attributes of objects, and sorting categories by count. Students also work with data, representing and interpreting basic sets of data in bar graphs and pictographs
Math Unit 6 Working with Money & Telling Time	11	1.MD.3 2.MD.8	Students work with coins, learning the names and values of each and using skip counting skills to determine the value of basic collections.. Students end the unit by learning how to tell time to the hour and half hour.
Science Unit Materials and Motion	28	K.PS2-1 K.PS2-2 K.PS3-1 K.PS3-2	Students work with five different wood samples to observe their properties. Students observe and compare the properties of ten kinds of paper and go on a hunt for matching samples. Students observe and compare the properties of ten kinds of fabric and search for different ways fabrics are used. Students investigate the strength of pushes and pulls needed to move objects.

Grade 1 STEM SSM

Unit # & Title	Lessons	Standards	Summary
Math Unit 1 Addition & Subtraction Strategies to 20	13	1.OA.3 1.OA.5 - 8	Students build fluency with addition & subtraction within 20, focusing on making 10s and building automaticity with addition & subtraction within 10. Strategies include counting on and counting back, decomposing and renaming numbers, and finding benchmark pairs.
Math Unit 2 Place Value & Comparing Numbers	17	1.NBT.1 - 3 1.OA.6	Students focus on place value and composing and decomposing numbers, building deep fluency with idea of a ten unit. They also use place value to compare numbers.
Math Unit 3 Addition & Subtraction within 50	18	1.OA.3 -4 1.OA.8 1.NBT.4	Students focus on the relationship between addition and subtraction, properties of operations and place value with numbers within 50.
Math Unit 4 Length & Data	13	1.OA.4 1.NBT.3 1.MD.1 -2 1.MD.4	Students practice length measurement and comparing lengths. They create bar graphs and ask/answer questions about data. The connection is built between more than/less than statements about length and data to addition and subtraction situations.
Math Unit 5 Addition & Subtraction within 100	13	1.OA.3 1.OA.8 1.NBT.2 1.NBT.4 - 6	Students continue practice with addition and subtraction strategies with larger numbers. Strategies center around use of models and drawings, properties of operations, and the inverse relationship between addition and subtraction.
Math Unit 6 Shapes & Time	13	1.MD.3 1.G.1 - 3	Students work with defining attributes and composite shapes. They also explore equal shares of shapes and build connections with telling time to the hour and half hour.
Science Unit 1 Air and Weather	29	1.ESS1-1 & 2 K.ESS2-1 K-ESS3-3 2.PS1-1	Students explore the phenomenon that air is matter and can push objects around. Students observe phenomena in the sky—weather and clouds, the Sun, and the Moon. They observe and record how the objects move, looking for patterns. Students investigate the phenomenon of air in motion. Students look for patterns in phenomena they observe over time—Moon phase, amount of daylight, and weather conditions.

Grade 2 STEM SSM

Unit # & Title	Lessons	Standards	Summary
Math Unit 1 Place Value	17	2.NBT.1 - 4 2.NBT.8 2.MD.8	Students focus on place value and composing and decomposing numbers, building deep fluency with the idea of a hundred unit. Students begin working with money, including pennies, dimes, and dollars, to complement place value and bundling. They also practice skip counting, mentally finding 10 or 100 more/less than a number based on place value strategies.
Math Unit 2 Addition & Subtraction within 200	15	2.NBT.5, 7, 9 2.MD.10 2.MD.6	Students work on building addition and subtraction strategies with 100s, 10s and 1s units, focusing on composing and decomposing a single hundred. They also use the number line to represent sums and differences.
Math Unit 3 Addition & Subtraction within 1,000	16	2.NBT.1 2.NBT.5 - 7 2.NBT.9 2.MD.8	Students extend addition & subtraction strategies to larger numbers, applying computation strategies to work with money. Complexity of working with money increases as other coins are introduced.
Math Unit 4 Measurement	15	2.MD.1 - 4 2.MD.6 2.MD.9- 10	Students measure lengths of objects, compare lengths, and make a line plot representing measurements. Students continue work with bar graphs, connecting them to length measurement.
Math Unit 5 Time & Equal Shares	13	2.MD.7 2.G.1 & 3	Students work to understand equal shares and partitioning shapes, extending this to telling time - recognizing an analog clock as a circle that has been partitioned into equal slices (halves for half hours, quarters for quarter hours, etc.).
Math Unit 6 Multiplication Foundations	13	2.OA.3 - 4 2.G.2	Exploring repeated addition, even and odd numbers, and arrays in preparation for multiplication.
Science Unit Pebbles, Sand, and Silt	29	2ESS1-1 2.ESS2-1 - 2 2PS1-2	Students are introduced to the phenomenon that rocks are not all the same. Students investigate a mixture of different-sized river rocks as a phenomenon. Students learn how people use earth materials to construct objects. Students first investigate a common phenomenon on the surface of Earth—soil.

Grade 3 STEM SSM

Unit # & Title	Lessons	Standards	Summary
Math Unit 1 Place Value, Addition & Subtraction	16	3.NBT.1 - 2 3.MD.1 3.OA.5 3.OA.9	Students use their place value understanding from grade 2 to explore rounding, as well as to build additional fluency with addition & subtraction. Elapsed time is covered as a natural extension of adding/subtracting on the number line. Addition and subtraction patterns are covered as well.
Math Unit 2 Multiplication & Division Part 1	14	3.OA.1 - 2 3.OA.4 3.OA.6 - 7	This unit focuses on foundational understandings of multiplication & division and on the relationship between the two: recognizing situations, modeling with manipulatives, and fact families.
Math Unit 3 Multiplication & Division Part 2	13	3.OA.4 - 6 3.OA.7 & 9 3.MD.3 3.NBT.3	Students focus on building multiplication & division strategies and properties, along with exploring multiplication & division patterns. Scaled pictographs and bar graphs are covered as well, as they rely on multiplication & division to interpret.
Math Unit 4 Area & Perimeter	14	3.OA.4 - 5 3.MD.5 - 8 3.G.1	Students explore area and perimeter concepts, as well as attributes of shapes, which they use to solve area and perimeter problems.
Math Unit 5 Fractions as Numbers	11	3.NF.1 - 3 3.G.2	Students work to understand fractions as part of or all of a whole, making use of both shape models and quantities on a number line. Students make use of benchmark fractions to estimate size as well as to assist in comparisons. All fractions used in this unit are less than or equal to one whole.
Math Unit 6 Fraction Equivalency	15	3.NF.1 - 3 3.MD.4 3.G.2	Students focus on the idea of equivalence and equivalent fractions, learn about fractions greater than one whole, and represent measurement data using line plots. Comparison work continues, including mixed numbers and improper fractions, both representing fractions greater than one.
Science Unit Motion and Matter	20	3.PS2-1 - 4	Students explore phenomena that can affect the motion of masses—the forces of magnetism and gravity. Students use a variety of systems as phenomena to explore patterns of motion. Students tackle an engineering design challenge in incremental steps. Students extend grade two experiences with matter by using tools to quantify data to develop evidence for the phenomenon of conservation of mass.

Grade 4 STEM SSM

Unit # & Title	Lessons	Standards	Summary
Math Unit 1: Place Value, Addition & Subtraction	13	4.NBT.1 - 4 4.MD.1 4.MD.3	Students extend their understanding of place value to numbers within 1,000,000, as well as explore rounding to any place. They anchor their place value understandings around the relationship to the number 10, and master the addition & subtraction algorithm based on the base-10 system. Students also work on converting units of metric measurement as an application of their base-10 understanding.
Math Unit 2: Multiplication & Division	16	4.OA.1 4.NBT.5-6 4.OA.4-5 4.MD.1 4.MD.3	Students explore multiplication as comparison, as well as continue building procedural fluency with multi-digit multiplication & division. Students work with factors and multiples, as well as prime & composite numbers. Students use multiplication & division to solve a variety of measurement problems, including conversion of standard units of measurement, and area & perimeter problems.
Math Unit 3: Fraction Equivalency	11	4.NF.1 - 2 4.MD.2 - 4	Students build a deep understanding of fraction equivalence and ordering, generating equivalent fractions and using this as a strategy for comparison.
Math Unit 4: Fraction Operations	16	4.NF.3-4 4.MD.2 - 4	Using their understanding of fraction equivalency, students begin to add fractions, as well as multiply fractions by whole numbers, which they understand as repeated addition of fractional parts. Students also make line plots with fractional scales
Math Unit 5: Decimal Fractions	12	4.NF.5 - 7 4.MD.2-3	Students explore decimal fractions as a special type of fraction, learning about decimal notation, and performing operations and comparisons with decimal fractions.
Math Unit 6: Lines & Angles	13	4.MD.5 - 7 4.G.1 - 3	Students explore a variety of geometry and measurement concepts including, perpendicular and parallel lines, types of triangles, lines of symmetry and angle measurement.
Science Unit Soils, Rocks, and Landforms	20	4.ESS1-1 4.ESS2-1-2 4.ESS3-1-2	Students engage firsthand with a variety of phenomena in the natural world, including soils, erosion, the earth's mountains, and the earth's natural resources. They investigate the properties of soil by comparing four different soils, use stream-table models to observe that water moves earth materials from one location to another, and build a model of a mountain landform.

Grade 5 STEM SSM

Unit # & Title	Lessons	Standards	Summary
Math Unit 1: Decimal Place Value, Addition & Subtraction	14	5.NBT.1 - 4 5.NBT.7 5.MD.1	Students deepen their grasp of our number system by increasing their knowledge of place value relationships. Students use exponents to represent powers of 10 and learn metric conversions in connection with place value relationships. Students also read, write, compare, round, add and subtract decimals to the thousandths place
Math Unit 2: Multiplication & Division	16	5.OA.1 - 2 5.NBT.5 - 7 5.MD.1 5.NBT.1	Students will master the formal algorithm for multiplication and work with larger numbers in division. Multiplication and division of decimals is also practiced. Students will write and interpret numerical expressions, including grouping symbols, and work with word problems that focus on US customary/standard units, recognizing and emphasizing conversion factors other than 10.
Math Unit 3: Addition & Subtraction of Fractions	13	5.NF.1-2 5.MD.2	Students formalize their strategies for adding and subtracting fractions with unlike denominators. Students build and interpret line plots using fractional scales.
Math Unit 4: Multiplication & Division of Fractions	15	5.NBT.7 5.NF.3 - 7 5.MD.2	This unit focuses on multiplication and division of fractional units (in both fraction and decimal notation). Students learn to interpret fractions as division of the numerator by the denominator, as well as view multiplication as scaling. Work focuses on problems involving these computations, including those with area and line plots.
Math Unit 5: Volume & Shapes	12	5.MD.3 - 5 5.G.3 - 4 5.NF.5 - 6 5.MD.1	Volume is the focus of this unit, building on students' understanding of multiplication, division and area. Students build proficiency with name properties of shapes, allowing them to accurately place quadrilaterals in a hierarchy.
Math Unit 6: The Coordinate Plane	10	5.OA.3 5.G.1 - 2 5.NF.6 - 7 5.MD.1	Students prepare for algebraic work by exploring patterns and relationships between numeric terms. Students also learn how to graphically represent relationships between numbers on the coordinate plane.
Science Unit Earth and Sun	20	5.ESS1-1 - 2 5.ESS2-1 - 2 5.ESS3-1	Students observe and investigate a variety of natural phenomena relating to the earth and sun: including outdoor shadows, reflecting light in the sky, the Earth's atmosphere, energy transfer & water on Earth.