HISD | Elementary Curriculum and Development

INSPIRING TEACHING, IGNITING LITERACY & LEARNING.

2021-2022 Vertical Alignment Matrix
Mathematics – Prekindergarten - Grade 5

	Prekindergarten	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Mathematical Process Standards		Use mathematical processes to acquire and demonstrate mathematical understanding.	Use mathematical processes to acquire and demonstrate mathematical understanding.	Use mathematical processes to acquire and demonstrate mathematical understanding.	Use mathematical processes to acquire and demonstrate mathematical understanding.	Use mathematical processes to acquire and demonstrate mathematical understanding.	Use mathematical processes to acquire and demonstrate mathematical understanding.
		(PS) **MATH.K.1A** Apply mathematics to problems arising in everyday life, society, and the workplace.	(PS) **MATH.1.1A** Apply mathematics to problems arising in everyday life, society, and the workplace.	(PS) **MATH.2.1A** Apply mathematics to problems arising in everyday life, society, and the workplace.	(PS) **MATH.3.1A** Apply mathematics to problems arising in everyday life, society, and the workplace.	(PS) **MATH.4.1A** Apply mathematics to problems arising in everyday life, society, and the workplace.	(PS) **MATH.5.1A** Apply mathematics to problems arising in everyday life, society, and the workplace.
		(PS) **MATH.K.1B** Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.	(PS) **MATH.1.1B** Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.	(PS) **MATH.2.1B** Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.	(PS) **MATH.3.1B** Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.	(PS) **MATH.4.1B** Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.	(PS) **MATH.5.1B** Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution; and evaluating the problem-solving process and the reasonableness of the solution.
		(PS) **MATH.K.1C** Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.	(PS) **MATH.1.1C** Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.	(PS) **MATH.2.1C** Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.	(PS) **MATH.3.1C** Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.	(PS) **MATH.4.1C** Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.	(PS) **MATH.5.1C** Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.
		(PS) **MATH.K.1D** Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.	(PS) **MATH.1.1D** Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.	(PS) **MATH.2.1D** Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.	(PS) **MATH.3.1D** Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.	(PS) **MATH.4.1D** Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.	(PS) **MATH.5.1D** Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.
		(PS) **MATH.K.1E** Create and use representations to organize, record, and communicate mathematical ideas.	(PS) **MATH.1.1E** Create and use representations to organize, record, and communicate mathematical ideas.	(PS) **MATH.2.1E** Create and use representations to organize, record, and communicate mathematical ideas.	(PS) **MATH.3.1E** Relate informal language to mathematical language and symbols.	(PS) **MATH.4.1E** Relate informal language to mathematical language and symbols.	(PS) **MATH.5.1E** Relate informal language to mathematical language and symbols.
		(PS) **MATH.K.1F** Analyze mathematical relationships to connect and communicate mathematical ideas.	(PS) **MATH.1.1F** Analyze mathematical relationships to connect and communicate mathematical ideas.	(PS) **MATH.2.1F** Analyze mathematical relationships to connect and communicate mathematical ideas.	(PS) **MATH.3.1F** Analyze mathematical relationships to connect and communicate mathematical ideas.	(PS) **MATH.4.1F** Analyze mathematical relationships to connect and communicate mathematical ideas.	(PS) **MATH.5.1F** Analyze mathematical relationships to connect and communicate mathematical ideas.
		(PS) **MATH.K.1G** Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.	(PS) **MATH.1.1G** Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.	(PS) **MATH.2.1G** Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.	(PS) **MATH.3.1G** Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.	(PS) **MATH.4.1G** Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.	(PS) **MATH.5.1G** Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.

GLOBAL GRADUATE

(PS) - State Process Standard

(AR) - Aligned to Upcoming State Readiness Standard

(R) - State Readiness Standard

(S) - State Supporting Standard

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2021-2022 Vertical Alignment Matrix
Mathematics – Prekindergarten - Grade 5

	Prekindergarten	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Reporting Category 1: Numerical Representations and Relationships	**V.A.7** Child uses the verbal ordinal terms.	**MATH.K.2 Represent** and compare **whole numbers**, the relative position and magnitude of whole numbers, and relationships within the numeration system.	**MATH.1.2 Represent** and compare **whole numbers**, the relative position and magnitude of whole numbers, and relationships within the numeration system related to place value.	**MATH.2.2 Represent** and compare **whole numbers**, the relative position and magnitude of whole numbers, and relationships within the numeration system related to place value.			
	V.C.3 Child demonstrates use of location words such as "over," "under," "above," "on," "beside," "next to," "between," "in front of," "near," "far," etc.						
	V.A.3 Child counts 1–10 items, with one count per item.	**MATH.K.2A** Count forward and backward to at least 20 with and without objects.					
	V.A.5 Child counts up to 10 items, and demonstrates that the last count indicates how many items were counted.	**MATH.K.2C** Count a set of objects up to at least 20 and demonstrate that the last number said tells the number of objects in the set regardless of their arrangement or order.					
	V.A.8 Child verbally identifies, without counting, the number of objects from 1 to 5.	**MATH.K.2D** Recognize instantly the quantity of a small group of objects in organized and random arrangements.	**MATH.1.2A** Recognize instantly the quantity of structured arrangements.				
	V.B.1 Child uses concrete objects, creates pictorial models and shares a verbal word problem for adding up to 5 objects.	**MATH.K.2E** Generate a set using concrete and pictorial models that represents a number that is more than, less than, and equal to a given number up to 20.					
		MATH.K.2F Generate a number that is one more than or one less than another number up to at least 20.	**MATH.1.2D** Generate a number that is greater than or less than a given whole number up to 120.	**MATH.2.2C** Generate a number that is greater than or less than a given whole number up to 1,200.			

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2021-2022 Vertical Alignment Matrix
Mathematics – Prekindergarten - Grade 5

Prekindergarten	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
	MATH.K.2 Represent and **compare whole numbers**, the relative position and magnitude of whole numbers, and relationships within the numeration system.	**MATH.1.2** Represent and **compare whole numbers**, the relative position and magnitude of whole numbers, and relationships within the numeration system related to place value.	**MATH.2.2** Represent and **compare whole numbers**, the relative position and magnitude of whole numbers, and relationships within the numeration system related to place value.	**MATH.3.2** Represent and **compare whole numbers** and understand relationships related to place value.	**MATH.4.2** Represent, **compare, and order whole numbers and decimals** and understand relationships related to place value.	**MATH.5.2** Represent, **compare, and order positive rational numbers** and understand relationships as related to place value.
V.A.8 Child verbally identifies, without counting the number of objects from 1 to 5.	**MATH.K.2G** Compare sets of objects up to at least 20 in each set using comparative language.	**MATH.1.2E** Use place value to compare whole numbers up to 120 using comparative language.	**MATH.2.2D** Use place value to compare and order whole numbers up to 1,200 using comparative language, numbers, and symbols (>, <, or =).	Ⓡ **MATH.3.2D** Compare and order whole numbers up to 100,000 and represent comparisons using the symbols >, <, or =.	Ⓢ **MATH.4.2C** Compare and order whole numbers to 1,000,000,000 and represent comparisons using the symbols >, <, or =.	
	MATH.K.2H Use comparative language to describe two numbers up to 20 presented as written numerals.					
		MATH.1.2F Order whole numbers up to 120 using place value and open number lines.				
		MATH.1.2G Represent the comparison of two numbers to 100 using the symbols >, <, or =.				
					Ⓢ **MATH.4.2F** Compare and order decimals using concrete and visual models to the hundredths.	Ⓡ **MATH.5.2B** Compare and order two decimals to thousandths and represent comparisons using the symbols >, <, or =.

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2021-2022 Vertical Alignment Matrix
Mathematics – Prekindergarten - Grade 5

		Prekindergarten	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Reporting Category 1: Numerical Representations and Relationships					**MATH.2.2 Represent** and compare whole numbers, **the relative position and magnitude of whole numbers**, and relationships within the numeration system related to place value.	**MATH.3.2 Represent** and compare **whole numbers** and understand relationships related to place value.	**MATH.4.2 Represent**, compare, and order **whole numbers and decimals** and understand relationships related to place value.	
				See MATH.1.2F	**MATH.2.2E** Locate the position of a given whole number on an open number line. **MATH.2.2F** Name the whole number that corresponds to a specific point on a number line.	Ⓢ **MATH.3.2C** Represent a number on a number line as being between two consecutive multiples of 10; 100; 1,000; or 10,000 and use words to describe relative size of numbers in order to round whole numbers. **See Ⓢ MATH.3.7A**	Ⓢ **MATH.4.2H** Determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line.	
						Ⓢ **MATH.3.3B** Determine the corresponding fraction greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 given a specified point on a number line **See Ⓢ MATH.3.2C** **See Ⓡ MATH.3.3F**	Ⓡ **MATH.4.3G** Represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.	

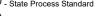| Prekindergarten	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
	MATH.K.2 Represent and compare whole numbers, the relative position and magnitude of whole numbers, and **relationships within the numeration system**.	**MATH.1.2 Represent** and compare whole numbers, the relative position and magnitude of whole numbers, and **relationships within the numeration system related to place value**.	**MATH.2.2 Represent** and compare whole numbers, the relative position and magnitude of whole numbers, and **relationships within the numeration system related to place value**.	**MATH.3.2** Represent and compare whole numbers and **understand relationships related to place value**.	**MATH.4.2** Represent, compare, and order whole numbers and decimals and **understand relationships related to place value**.	**MATH.5.2** Represent, compare, and order positive rational numbers and **understand relationships as related to place value**.
	MATH.K.2I Compose and decompose numbers up to 10 with objects and pictures.	**MATH.1.2B** Use concrete and pictorial models to compose and decompose numbers up to 120 in more than one way as so many hundreds, so many tens, and so many ones.	**MATH.2.2A** Use concrete and pictorial models to compose and decompose numbers up to 1,200 in more than one way as a sum of so many thousands, hundreds, tens, and ones.	ⓇMATH.3.2A Compose and decompose numbers up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate.	ⓇMATH.4.2B Represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals.	ⓈMATH.5.2A Represent the value of the digit in decimals through the thousandths using expanded notation and numerals.
V.A.9 Child recognizes one-digit numerals, 0–9.	**MATH.K.2B** Read, write, and represent whole numbers from 0 to at least 20 with and without objects or pictures.	**MATH.1.2C** Use objects, pictures, and expanded and standard forms to represent numbers up to 120.	**MATH.2.2B** Use standard, word, and expanded forms to represent numbers up to 1,200.			
				ⓈMATH.3.2B Describe the mathematical relationships found in the base-10 place value system through the hundred thousands place.	ⓈMATH.4.2A Interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left.	
					ⓈMATH.4.2E Represent decimals, including tenths and hundredths, using concrete and visual models and money.	
				See ⓈMATH.3.4B	ⓈMATH.4.2D Round whole numbers to a given place value through the hundred thousands place.	ⓈMATH.5.2C Round decimals to tenths or hundredths.

GLOBAL GRADUATE

Ⓟ - State Process Standard
ⒶⓇ - Aligned to Upcoming State Readiness Standard
Ⓡ - State Readiness Standard
Ⓢ - State Supporting Standard

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Mathematics – Prekindergarten - Grade 5

	Prekindergarten	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Reporting Category 1: Numerical Representations and Relationships				**MATH.2.3** Recognize and represent fractional units and communicate how they are used to name parts of a whole.	**MATH.3.3** Represent and explain fractional units.	**MATH.4.3** Represent and generate fractions to solve problems.	**MATH.5.3** Develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy.
	V.B.3 Child uses informal strategies to share or divide up to 10 items equally.		See MATH.1.6G	**MATH.2.3A** Partition objects into equal parts and name the parts, including halves, fourths, and eighths, using words.	Ⓢ **MATH.3.3A** Represent fractions greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 using concrete objects and pictorial models, including strip diagrams and number lines. See Ⓢ **MATH.3.6E** See Ⓢ **MATH.3.7A**	See Ⓢ **MATH.4.3A**	
			See MATH.1.6H	**MATH.2.3D** Identify examples and non-examples of halves, fourths, and eighths.			
				MATH.2.3B Explain that the more fractional parts used to make a whole, the smaller the part, the fewer the fractional parts, the larger the part.	Ⓢ **MATH.3.3C** Explain that the unit fraction 1/b represents the quantity formed by one part of a whole that has been partitioned into b equal parts where b is a non-zero whole number.		
				MATH.2.3C Use concrete models to count fractional parts beyond one whole using words and recognize how many parts it takes to equal one whole.	Ⓢ **MATH.3.3E** Solve problems involving partitioning an object or a set of objects among two or more recipients using pictorial representations of fractions with denominators of 2, 3, 4, 6, and 8.		
						Ⓢ **MATH.4.3A** Represent a fraction a/b as a sum of fractions 1/b, where a and b are whole numbers and b > 0, including when a > b.	
						Ⓢ **MATH.4.3B** Decompose a fraction in more than one way into a sum of fractions with the same denominator using concrete and pictorial models and recording results with symbolic representations.	
					Ⓢ **MATH.3.3D** Compose and decompose a fraction a/b with a numerator greater than zero and less than or equal to b as a sum of parts 1/b.	Ⓡ **MATH.4.3E** Represent and solve addition and subtraction of fractions with equal denominators using objects and pictorial models that build to the number line and properties of operations.	Ⓢ **MATH.5.3H** Represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operations.
					Ⓡ **MATH.3.3F** Represent equivalent fractions with denominators of 2, 3, 4, 6, and 8 using a variety of objects and pictorial models, including number lines.	Ⓢ **MATH.4.2G** Relate decimals to fractions that name tenths and hundredths.	
					Ⓢ **MATH.3.3G** Explain that two fractions are equivalent if and only if they are both represented by the same point on the number line or represent the same portion of a same size whole for an area model.	Ⓢ **MATH.4.3C** Determine if two given fractions are equivalent using a variety of methods.	
					Ⓡ **MATH.3.3H** Compare two fractions having the same numerator or denominator in problems by reasoning about their sizes and justifying the conclusion using symbols, words, objects, and pictorial models.	Ⓡ **MATH.4.3D** Compare two fractions with different numerators and different denominators and represent the comparison using the symbols >, =, or <.	

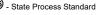|	Prekindergarten	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
		MATH.K.3 Develop an understanding of addition and subtraction situations in order to solve problems.	MATH.1.3 Develop and use strategies for whole number addition and subtraction computations in order to solve problems.	MATH.2.4 Develop and use strategies and methods for whole number computations in order to solve addition and subtraction problems with efficiency and accuracy.	MATH.3.4 Develop and use strategies and methods for whole number computations in order to solve problems with efficiency and accuracy.	MATH.4.4 Develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy.	MATH.5.3 Develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy.
Reporting Category 2: Computations and Algebraic Relationships					⑤ MATH.3.4B Round to the nearest 10 or 100 or use compatible numbers to estimate solutions to addition and subtraction problems.	⑤ MATH.4.4G Round to the nearest 10, 100, or 1,000 or use compatible numbers to estimate solutions involving whole numbers	⑤ MATH.5.3A Estimate to determine solutions to mathematical and real-world problems involving addition, subtraction, multiplication, or division.
						⑤ MATH.4.3F Evaluate the reasonableness of sums and differences of fractions using benchmark fractions 0, 1/4, 1/2, 3/4, and 1, referring to the same whole.	
	V.B.1 Child uses concrete objects, creates pictorial models, and shares a verbal word problem for adding up to 5 objects. V.B.2 Child uses concrete models or makes a verbal word problem for subtracting 0–5 objects from a set.	MATH.K.3A Model the action of joining to represent addition and the action of separating to represent subtraction.	MATH.1.3B Use objects and pictorial models to solve word problems involving joining, separating, and comparing sets within 20 and unknowns as any one of the terms in the problem such as 2 + 4 = [ ]; 3 + [ ] = 7; and 5 = [ ] - 3.	MATH.2.4C Solve one-step and multi-step word problems involving addition and subtraction within 1,000 using a variety of strategies based on place value, including algorithms.	Ⓡ MATH.3.4A Solve with fluency one-step and two-step problems involving addition and subtraction within 1,000 using strategies based on place value, properties of operations, and the relationship between addition and subtraction.	Ⓡ MATH.4.4A Add and subtract whole numbers and decimals to the hundredths place using the standard algorithm.	Ⓡ MATH.5.3K Add and subtract positive rational numbers fluently.
	V.B.1 Child uses concrete objects, creates pictorial models, and shares a verbal word problem for adding up to 5 objects. V.B.2 Child uses concrete models or makes a verbal word problem for subtracting 0-5 objects from a set.	MATH.K.3B Solve word problems using objects and drawings to find sums up to 10 and differences within 10.	MATH.1.3C Compose 10 with two or more addends with and without concrete objects.				
	V.B.1 Child uses concrete objects, creates pictorial models, and shares a verbal word problem for adding up to 5 objects. V.B.2 Child uses concrete models or makes a verbal word problem for subtracting 0–5 objects from a set.	MATH.K.3C Explain the strategies used to solve problems involving adding and subtracting within 10 using spoken words, concrete and pictorial models, and number sentences.	MATH.1.3E Explain strategies used to solve addition and subtraction problems up to 20 using spoken words, objects, pictorial models, and number sentences.	MATH.2.4B Add up to four two-digit numbers and subtract two-digit numbers using mental strategies and algorithms based on knowledge of place value and properties of operations.			
	V.B.1 Child uses concrete objects, creates pictorial models, and shares a verbal word problem for adding up to 5 objects.		MATH.1.3A Use concrete and pictorial models to determine the sum of a multiple of 10 and a one-digit number in problems up to 99.	See MATH.2.4C			
	V.B.2 Child uses concrete models or makes a verbal word problem for subtracting 0–5 objects from a set.		MATH.1.3D Apply basic fact strategies to add and subtract within 20, including making 10 and decomposing a number leading to a 10.	MATH.2.4A Recall basic facts to add and subtract within 20 with automaticity.			
			MATH.1.3F Generate and solve problem situations when given a number sentence involving addition or subtraction of numbers within 20.	MATH.2.4D Generate and solve problem situations for a given mathematical number sentence involving addition and subtraction of whole numbers within 1,000. See MATH.2.7C			

PS - State Process Standard

AR - Aligned to Upcoming State Readiness Standard

Ⓡ - State Readiness Standard

⑤ - State Supporting Standard

	Prekindergarten	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Reporting Category 2: Computations and Algebraic Relationships				**MATH.2.6** Connect repeated addition and subtraction to multiplication and division situations that involve equal groupings and shares.	**MATH.3.4** Develop and use strategies and methods for whole number computations in order to solve problems with efficiency and accuracy.	**MATH.4.4** Develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy.	**MATH.5.3** Develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy.
				MATH.2.6A Model, create, and describe contextual multiplication situations in which equivalent sets of concrete objects are joined.	Ⓢ **MATH.3.4D** Determine the total number of objects when equally-sized groups of objects are combined or arranged in arrays up to 10 by 10.		
					Ⓢ **MATH.3.4E** Represent multiplication facts by using a variety of approaches such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line, and skip counting. **See Ⓡ MATH.3.6C**	Ⓢ **MATH.4.4C** Represent the product of 2 two-digit numbers using arrays, area models, or equations, including perfect squares through 15 by 15.	Ⓢ **MATH.5.3D** Represent multiplication of decimals with products to the hundredths using objects and pictorial models, including area models. Ⓢ **MATH.5.3I** Represent and solve multiplication of a whole number and a fraction that refers to the same whole using objects and pictorial models, including area models.
					Ⓢ **MATH.3.4F** Recall facts to multiply up to 10 by 10 with automaticity and recall the corresponding division facts.	Ⓢ **MATH.4.4B** Determine products of a number and 10 or 100 using properties of operations and place value understandings.	Ⓡ **MATH.5.3E** Solve for products of decimals to the hundredths, including situations involving money, using strategies based on place-value understandings, properties of operations, and the relationship to the multiplication of whole numbers.
					Ⓢ **MATH.3.4G** Use strategies and algorithms, including the standard algorithm, to multiply a two-digit number by a one-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties.	Ⓢ **MATH.4.4D** Use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties.	
					Ⓡ **MATH.3.4K** Solve one-step and two-step problems involving **multiplication** and division within 100 using strategies based on objects; pictorial models, including arrays, area models, and equal groups; properties of operations; or recall of facts.	Ⓡ **MATH.4.4H** Solve with fluency one- and two-step problems involving **multiplication** and division, including interpreting remainders. **See Ⓢ MATH.4.4D**	Ⓢ **MATH.5.3B** Multiply with fluency a three-digit number by a two-digit number using the standard algorithm.

	Prekindergarten	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
				MATH.2.6 Connect repeated addition and subtraction to multiplication and division situations that involve equal groupings and shares.	**MATH.3.4** Develop and use strategies and methods for whole number computations in order to solve problems with efficiency and accuracy.	**MATH.4.4** Develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy.	**MATH.5.3** Develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy.
Reporting Category 2: Computations and Algebraic Relationships				**MATH.2.6B** Model, create, and describe contextual division situations in which a set of concrete objects is separated into equivalent sets.	Ⓢ **MATH.3.4H** Determine the number of objects in each group when a set of objects is partitioned into equal shares or a set of objects is shared equally. **See** Ⓢ **MATH.3.4F**	Ⓢ **MATH.4.4E** Represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays, area models, or equations.	Ⓢ **MATH.5.3F** Represent quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using objects and pictorial models, including area models. Ⓢ **MATH.5.3J** Represent division of a unit fraction by a whole number and the division of a whole number by a unit fraction such as $1/3 \div 7$ and $7 \div 1/3$ using objects and pictorial models, including area models.
				See **MATH.2.7A**	Ⓢ **MATH.3.4I** Determine if a number is even or odd using divisibility rules.		
				See **MATH.2.6B**	Ⓢ **MATH.3.4J** Determine a quotient using the relationship between multiplication and division.		
					Ⓡ **MATH.3.4K** Solve one-step and two-step problems involving multiplication and **division** within 100 using strategies based on objects; pictorial models, including arrays, area models, and equal groups; properties of operations; or recall of facts.	Ⓡ **MATH.4.4H** Solve with fluency one- and two-step problems involving multiplication and **division**, including interpreting remainders.	Ⓢ **MATH.5.3C** Solve with proficiency for quotients of up to a four-digit dividend by a two-digit divisor using strategies and the standard algorithm.
						Ⓢ **MATH.4.4F** Use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor.	Ⓡ **MATH.5.3G** Solve for quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using strategies and algorithms, including the standard algorithm.
							Ⓡ **MATH.5.3L** Divide whole numbers by unit fractions and unit fraction by whole numbers.

Prekindergarten	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
	MATH.K.4 Identify coins in order to recognize the need for monetary transactions.	**MATH.1.4** Identify coins, their values, and the relationships among them in order to recognize the need for monetary transactions.	**MATH.2.5** Determine the value of coins in order to solve monetary transactions.	**MATH.3.4** Develop and use strategies and methods for whole number computations in order to solve problems with efficiency and accuracy.		
	MATH.K.4A Identify U.S. coins by name, including pennies, nickels, dimes, and quarters.	**MATH.1.4A** Identify U.S. coins, including pennies, nickels, dimes, and quarters, by value and describe the relationships among them.				
		MATH.1.4B Write a number with the cent symbol to describe the value of a coin.	**MATH.2.5B** Use the cent symbol, dollar sign, and the decimal point to name the value of a collection of coins.	Ⓢ **MATH.3.4C** Determine the value of a collection of coins and bills.	See MATH.4.8C	
		MATH.1.4C Use relationships to count by twos, fives, and tens to determine the value of a collection of pennies, nickels, and/or dimes.	**MATH.2.5A** Determine the value of a collection of coins up to one dollar.			

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	Prekindergarten	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Reporting Category 2: Computations and Algebraic Relationships		**MATH.K.5** Identify the pattern in the number word list.	**MATH.1.5** Identify and apply number patterns within properties of numbers and operations in order to describe relationships.	**MATH.2.7** Identify and apply number patterns within properties of numbers and operations in order to describe relationships.	**MATH.3.5** Analyze and create patterns and relationships.	**MATH.4.5** Develop concepts of expressions and equations.	**MATH.5.4** Develop concepts of expressions and equations.
				MATH.2.7A Determine whether a number up to 40 is even or odd using pairings of objects to represent the number.	See MATH.3.4I		⑤ **MATH.5.4A** Identify prime and composite numbers.
	V.A.2 Child uses words to rote count from 1 to 30.	**MATH.K.5A** Recite numbers up to at least 100 by ones and tens beginning with any given number.	**MATH.1.5A** Recite numbers forward and backward from any given number between 1 and 120.				
			MATH.1.5B Skip count by twos, fives, and tens to determine the total number of objects up to 120 in a set.				
			MATH.1.5C Use relationships to determine the number that is 10 more and 10 less than a given number up to 120.	**MATH.2.7B** Use an understanding of place value to determine the number that is 10 or 100 more or less than a given number up to 1,200.			
			MATH.1.5E Understand that the equal sign represents a relationship where expressions on each side of the equal sign represent the same value(s).	**MATH.2.7C** Represent and solve addition and subtraction word problems where unknowns may be any one of the terms in the problem.	® **MATH.3.5A** Represent one- and two-step problems involving addition and subtraction of whole numbers to 1,000 using pictorial models, number lines, and equations.	® **MATH.4.5A** Represent multi-step problems involving the four operations with whole numbers using strip diagrams and equations with a letter standing for the unknown quantity.	® **MATH.5.4B** Represent and solve multi-step problems involving the four operations with whole numbers using equations with a letter standing for the unknown quantity.
			MATH.1.5D Represent word problems involving addition and subtraction of whole numbers up to 20 using concrete and pictorial models and number sentences				
			MATH.1.5F Determine the unknown whole number in an addition or subtraction equation when the unknown may be any one of the three or four terms in the equation.				
			MATH.1.5G Apply properties of operations to add and subtract two or three numbers	See MATH.2.4B			
					⑤ **MATH.3.5D** Determine the unknown whole number in a multiplication or division equation relating three whole numbers when the unknown is either a missing factor or product.		
					® **MATH.3.5B** Represent and solve one- and two-step multiplication and division problems within 100 using arrays, strip diagrams, and equations.		⑤ **MATH.5.4E** Describe the meaning of parentheses and brackets in a numeric expression.
				See MATH.2.6A	⑤ **MATH.3.5C** Describe a multiplication expression as a comparison such as 3 x 24 represents 3 times as much as 24.		® **MATH.5.4F** Simplify numerical expressions that do not involve exponents, including up to two levels of grouping.

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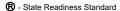|				® MATH.3.5E Represent real-world relationships using number pairs in a table and verbal descriptions.	® MATH.4.5B Represent problems using an input-output table and numerical expressions to generate a number pattern that follows a given rule representing the relationship of the values in the resulting sequence and their position in the sequence.	® MATH.5.4C Generate a numerical pattern when given a rule in the form y = ax or y = x + a and graph.
				See ® MATH.3.6C and Ⓢ MATH.3.6D		Ⓢ MATH.5.4D Recognize the difference between additive and multiplicative numerical patterns given in a table or graph.
					MATH.4.5C Use models to determine the formulas for the perimeter of a rectangle (l + w +l + w or 2l + 2w), including the special form for perimeter of a square (4s) and the area of a rectangle (l x w).	MATH.5.4G Use concrete objects and pictorial models to develop the formulas for the volume of a rectangular prism, including the special form for a cube (V = l x w x h, V = s x s x s, and V = Bh).
					® MATH.4.5D Solve problems related to perimeter and area of rectangles where dimensions are whole numbers.	® MATH.5.4H Represent and solve problems related to perimeter and/or area and related to volume.

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	Prekindergarten	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Reporting Category 3: Geometry and Measurement	**V.C.4** Child slides, flips, and turns shapes to demonstrate that the shapes remain the same.	**MATH.K.6** Analyze attributes of two-dimensional shapes and three-dimensional solids to develop generalizations about their properties.	**MATH.1.6** Analyze attributes of two-dimensional shapes and three-dimensional solids to develop generalizations about their properties.	**MATH.2.8** Analyze attributes of two-dimensional shapes and three-dimensional solids to develop generalizations about their properties.	**MATH.3.6** Analyze attributes of two-dimensional shapes and three-dimensional solids to develop generalizations about their properties.	**MATH.4.6** Analyze attributes of two-dimensional shapes and three-dimensional solids to develop generalizations about their properties.	**MATH.5.5** Classify two-dimensional figures by attributes and properties.
	V.C.2 Child creates shapes.	**See MATH.K.6F**	**MATH.1.6C** Create two-dimensional figures, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons.	**MATH.2.8A** Create two-dimensional shapes based on given attributes, including number of sides and vertices. **See MATH.2.8C**	⑤ **MATH.3.6B** Use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories.	⑤ **MATH.4.6A** Identify points, lines, line segments, rays, angles, and perpendicular and parallel lines.	
	V.C.1 Child names common shapes.	**MATH.K.6A** Identify two-dimensional shapes, including circles, triangles, rectangles, and squares as special rectangles.	**MATH.1.6D** Identify two-dimensional shapes, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons and describe their attributes using formal geometric language.			⑤ **MATH.4.6B** Identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure.	
		MATH.K.6D Identify attributes of two-dimensional shapes using informal and formal geometric language interchangeably.				⑤ **MATH.4.6C** Apply knowledge of right angles to identify acute, right, and obtuse triangles.	
	V.C.1 Child names common shapes.	**MATH.K.6B** Identify three-dimensional solids, including cylinders, cones, spheres, and cubes, in the real world.	**MATH.1.6E** Identify three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes), and triangular prisms, and describe their attributes using formal geometric language.				
		MATH.K.6C Identify two-dimensional components of three-dimensional objects.	**MATH.1.6B** Distinguish between attributes that define a two-dimensional or three-dimensional figure and attributes that do not define the shape.				
	V.E.1 Child sorts objects that are the same and different into groups and uses language to describe how the groups are similar and different.	**MATH.K.6E** Classify and sort a variety of regular and irregular two- and three-dimensional figures regardless of orientation or size.	**MATH.1.6A** Classify and sort, regular and irregular two-dimensional shapes based on attributes using informal geometric language.	**MATH.2.8C** Classify and sort polygons with 12 or fewer sides according to attributes, including identifying the number of sides and number of vertices.	® **MATH.3.6A** Classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language.	® **MATH.4.6D** Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size.	® **MATH.5.5A** Classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.
				MATH.2.8B Classify and sort three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes as special rectangular prisms), and triangular prisms, based on attributes using formal geometric language.			
	V.C.2 Child creates shapes.	**MATH.K.6F** Create two-dimensional shapes using a variety of materials and drawings.	**MATH.1.6F** Compose two-dimensional shapes by joining two, three, or four figures to produce a target shape in more than one way if possible.	**MATH.2.8D** Compose two-dimensional shapes and three-dimensional solids with given properties or attributes.			
	(See V.B.3 and V.C.2)		**MATH.1.6G** Partition two-dimensional figures into two and four fair shares or equal parts and describe the parts using words.	**MATH.2.8E** Decompose two-dimensional shapes such as cutting out a square from a rectangle, dividing a shape in half, or partitioning a rectangle into identical triangles and identify the resulting geometric parts. **See MATH.2.3A and MATH.2.3B** **See MATH.2.3D**	See ⑤ **MATH.3.6D** and ⑤ **MATH.3.6E**		
			MATH.1.6H Identify examples and non-examples of halves and fourths.				

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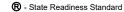© Houston ISD Curriculum
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			MATH.2.9F Use concrete models of square units to find the area of a rectangle by covering it with no gaps or overlaps, counting to find the total number of square units, and describing the measurement using a number and the unit.	Ⓡ MATH.3.6C Determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row.	See MATH.4.5C	
				Ⓢ MATH.3.6D Decompose composite figures formed by rectangles into non-overlapping rectangles to determine the area of the original figure using the additive property of area.		
				Ⓢ MATH.3.6E Decompose two congruent two-dimensional figures into parts with equal areas and express the area of each part as a unit fraction of the whole and recognize that equal shares of identical wholes need not have the same shape.		

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	Prekindergarten	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Reporting Category 3: Geometry and Measurement		**MATH.K.7** Directly compare measurable attributes.	**MATH.1.7** Select and use units to describe length and time.	**MATH.2.9** Select and use units to describe length, area, and time.	**MATH.3.7** Select appropriate units, strategies, and tools to solve problems involving customary and metric measurement.	**MATH.4.8** Select appropriate customary and metric units, strategies, and tools to solve problems involving measurement.	**MATH.5.7** Select appropriate units, strategies, and tools to solve problems involving measurement.
		MATH.K.7A Give an example of a measurable attribute of a given object, including length, capacity, and weight.	**MATH.1.7A** Use measuring tools to measure the length of objects to reinforce the continuous nature of linear measurement.	**MATH.2.9D** Determine the length of an object to the nearest marked unit using rulers, yardsticks, meter sticks, or measuring tapes.		® **MATH.4.8C** Solve problems that deal with measurements of length, intervals of time, liquid volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate.	See ® **MATH.5.7A**
			MATH.1.7B Illustrate that the length of an object is the number of same-size units of length that, when laid end-to-end with no gaps or overlaps, reach from one end of the object to the other.	**MATH.2.9A** Find the length of objects using concrete models for standard units of length.			
			MATH.1.7D Describe a length to the nearest whole unit using a number and a unit.				
	V.D.1 Child recognizes and compares heights or lengths of people or objects.		**MATH.1.7C** Measure the same object/distance with units of two different lengths and describe how and why the measurements differ.	**MATH.2.9B** Describe the inverse relationship between the size of the unit and the number of units needed to equal the length of an object.			
	V.D.2 Child recognizes how much can be placed within an object.						
	V.D.3 Child informally recognizes and compares weights of objects or people.	**MATH.K.7B** Compare two objects with a common measurable attribute to see which object has more of/less of the attribute and describe the difference.			Ⓢ **MATH.3.7D** Determine when it is appropriate to use measurements of liquid volume (capacity) or weight.		
					Ⓢ **MATH.3.7E** Determine liquid volume (capacity) or weight using appropriate units and tools.		
				MATH.2.9E Determine a solution to a problem involving length, including estimating lengths.	® **MATH.3.7B** Determine the perimeter of a polygon or a missing length when given perimeter and remaining side lengths in problems.		See ® **MATH.5.4H**
							See ® **MATH.5.4H**
				MATH.2.9C Represent whole numbers as distances from any given location on a number line. See MATH.2.3C	Ⓢ **MATH.3.7A** Represent fractions of halves, fourths, and eighths as distances from zero on a number line.	SeeⓈ **MATH.4.3G**	
	V.D.4 Child uses language to describe concepts associated with the passing of time.		**MATH.1.7E** Tell time to the hour and half hour using analog and digital clocks.	**MATH.2.9G** Read and write time to the nearest one-minute increment using analog and digital clocks and distinguish between a.m. and p.m.	Ⓢ **MATH.3.7C** Determine the solutions to problems involving addition and subtraction of time intervals in minutes using pictorial models or tools such as a 15-minute event plus a 30-minute event equals 45 minutes.	See ® **MATH.4.8C**	
		See MATH.K.7B			See Ⓢ **MATH.3.7D**	Ⓢ **MATH.4.8A** Identify relative sizes of measurement units within the customary and metric systems.	Ⓢ **MATH.5.7A** Solve problems by calculating conversions within a measurement system, customary or metric.
						Ⓢ **MATH.4.8B** Convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table. See MATH.4.5B	

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Prekindergarten	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
						MATH.5.6 Understand, recognize, and quantify volume.
						Ⓢ **MATH.5.6A** Recognize a cube with side length of one unit as a unit cube having one cubic unit of volume and the volume of a three-dimensional figure as the number of unit cubes (n cubic units) needed to fill it with no gaps or overlaps if possible.
						Ⓢ **MATH.5.6B** Determine the volume of a rectangular prism with whole number side lengths in problems related to the number of layers times the number of unit cubes in the area of the base.

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Reporting Category 3: Geometry and Measurement

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					MATH.4.7 Solve problems involving angles less than or equal to 180 degrees.	
					MATH.4.7A Illustrate the measure of an angle as the part of a circle whose center is at the vertex of the angle that is "cut out" by the rays of the angle. Angle measures are limited to whole numbers.	
					MATH.4.7B Illustrate degrees as the units used to measure an angle, where 1/360 of any circle is one degree and an angle that "cuts" n/360 out of any circle whose center is at the angle's vertex has a measure of n degrees. Angle measures are limited to whole numbers.	
					Ⓡ **MATH.4.7C** Determine the approximate measures of angles in degrees to the nearest whole number using a protractor. See MATH.4.6A	
					Ⓢ **MATH.4.7D** Draw an angle with a given measure. See MATH.4.6A	
					Ⓢ **MATH.4.7E** Determine the measure of an unknown angle formed by two non-overlapping adjacent angles given one or both angle measures.	

Prekindergarten	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
						MATH.5.8 Select appropriate units, strategies, and tools to solve problems involving measurement.
						Ⓢ **MATH.5.8A** Describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point (0, 0), the x-coordinate, the first number in an ordered pair, indicates movement parallel to the x-axis starting at the origin, the y-coordinate, the second number, indicates movement parallel to the y-axis starting at the origin.
						Ⓢ **MATH.5.8B** Describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane.
						Ⓡ **MATH.5.8C** Graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table. See Ⓡ MATH.5.4C. See Ⓢ MATH.5.4D

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2021-2022 Vertical Alignment Matrix
Mathematics – Prekindergarten - Grade 5

Reporting Category 4: Data Analysis and Personal Financial Literacy

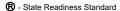|	Prekindergarten	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
		MATH.K.8 Collect and organize data to make it useful for interpreting information.	**MATH.1.8** Organize data to make it useful for interpreting information and solving problems.	**MATH.2.10** Organize data to make it useful for interpreting information and solving problems.	**MATH.3.8** Solve problems by collecting, organizing, displaying, and interpreting data.	**MATH.4.9** Solve problems by collecting, organizing, displaying, and interpreting data.	**MATH.5.9** Solve problems by collecting, organizing, displaying, and interpreting data.
	V.E.2 Child collects data and organizes it in a graphic representation.	**MATH.K.8A** Collect, sort, and organize data into two or three categories.	**MATH.1.8A** Collect, sort, and organize data in up to three categories using models/representations such as tally marks or T-charts.				
		MATH.K.8B Use data to create real-object and picture graphs.	**MATH.1.8B** Use data to create picture and bar-type graphs.	**MATH.2.10B** Organize a collection of data with up to four categories using pictographs and bar graphs with intervals of one or more.	ⓡ **MATH.3.8A** Summarize a data set with multiple categories using a frequency table, dot plot, pictograph, or bar graph with scaled intervals.	ⓡ **MATH.4.9A** Represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions.	ⓢ **MATH.5.9A** Represent categorical data with bar graphs or frequency tables and numerical data, including data sets of measurements in fractions or decimals, with dot plots or stem-and-leaf plots. ⓢ **MATH.5.9B** Represent discrete paired data on a scatterplot. See ⓡ **MATH.5.8C**
				MATH.2.10A Explain that the length of a bar in a bar graph or the number of pictures in a pictograph represents the number of data points for a given category.			
		MATH.K.8C Draw conclusions from real-object and picture graphs.	**MATH.1.8C** Draw conclusions and generate and answer questions using information from picture and bar-type graphs.	**MATH.2.10D** Draw conclusions and make predictions from information in a graph.			
				MATH.2.10C Write and solve one-step word problems involving addition or subtraction using data represented within pictographs and bar graphs with intervals of one.	ⓢ **MATH.3.8B** Solve one- and two-step problems using categorical data represented with a frequency table, dot plot, pictograph, or bar graph with scaled intervals.	ⓢ **MATH.4.9B** Solve one- and two-step problems using data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem-and-leaf plot.	ⓡ **MATH.5.9C** Solve one- and two-step problems using data from a frequency table, dot plot, bar graph, stem-and-leaf plot, or scatterplot.

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2021-2022 Vertical Alignment Matrix
Mathematics – Prekindergarten - Grade 5

	Prekindergarten	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Reporting Category 4: Data Analysis and Personal Financial Literacy		**MATH.K.9** Manage one's financial resources effectively for lifetime financial security.	**MATH.1.9** Manage one's financial resources effectively for lifetime financial security.	**MATH.2.11** Manage one's financial resources effectively for lifetime financial security.	**MATH.3.9** Manage one's financial resources effectively for lifetime financial security.	**MATH.4.10** Manage one's financial resources effectively for lifetime financial security.	**MATH.5.10** Manage one's financial resources effectively for lifetime financial security.
		MATH.K.9A Identify ways to earn income.	**MATH.1.9A** Define money earned as income.				
		MATH.K.9B Differentiate between money received as income and money received as gifts.			⑤ **MATH.3.9A** Explain the connection between human capital/labor and income.	See ⑤ **MATH.4.10A**	See ⑤ **MATH.5.10B** ⑤ **MATH.5.10A** Define income tax, payroll tax, sales tax, and property tax.
		MATH.K.9C List simple skills required for jobs.					
		MATH.K.9D Distinguish between wants and needs and identify income as a source to meet one's wants and needs.	**MATH.1.9B** Identify income as a means of obtaining goods and services, oftentimes making choices between wants and needs.				
			MATH.1.9C Distinguish between spending and saving. **MATH.1.9D** Consider charitable giving.	**MATH.2.11B** Explain that saving is an alternative to spending.	⑤ **MATH.3.9E** List reasons to save and explain the benefit of a savings plan, including for college. **MATH.3.9F** Identify decisions involving income, spending, saving, credit, and charitable giving. See **MATH.3.9C**	**MATH.4.10C** Compare the advantages and disadvantages of various savings options.	**MATH.5.10C** Identify the advantages and disadvantages of different methods of payment, including check, credit card, debit card, and electronic payments. ⑤ **MATH.5.10F** Balance a simple budget. ⑤ **MATH.5.10E** Describe actions that might be taken to balance a budget when expenses exceed income.
						MATH.4.10D Describe how to allocate a weekly allowance among spending; saving, including for college; and sharing.	**MATH.5.10D** Develop a system for keeping and using financial records.
				MATH.2.11A Calculate how money saved can accumulate into a larger amount over time. **MATH.2.11C** Distinguish between a deposit and a withdrawal.	**MATH.3.9C** Identify the costs and benefits of planned and unplanned spending decisions. See ⑤ **MATH.3.9E**	⑤ **MATH.4.10A** Distinguish between fixed and variable expenses.	
				MATH.2.11D Identify examples of borrowing and distinguish between responsible and irresponsible borrowing. **MATH.2.11E** Identify examples of lending and use concepts of benefits and costs to evaluate lending decisions.	⑤ **MATH.3.9D** Explain that credit is used when wants or needs exceed the ability to pay and that it is the borrower's responsibility to pay it back to the lender, usually with interest. See ⑤ **MATH.3.9E**	⑤ **MATH.4.10E** Describe the basic purpose of financial institutions including keeping money safe, borrowing money, and lending money See **MATH.4.10C**	See **MATH.5.10C**
				MATH.2.11F Differentiate between producers and consumers and calculate the cost to produce a simple item.	⑤ **MATH.3.9B** Describe the relationship between the availability or scarcity of resources and how that impacts cost.	⑤ **MATH.4.10B** Calculate profit in a given situation.	⑤ **MATH.5.10B** Explain the difference between gross income and net income.