Introduction to the

Revised Mathematics TEKS

SIDE-BY-SIDE TEKS COMPARISON
GRADE 3

TEXAS EDUCATION AGENCY

Old TEKS	Current TEKS (2012)	Supporting Information	Notes
(a) Introduction. (1) Within a well-balanced mathematics curriculum, the primary focal points at Grade 3 are multiplying and dividing whole numbers, connecting fraction symbols to fractional quantities, and standardizing language and procedures in geometry and measurement.	(a) Introduction. (1) The desire to achieve educational excellence is the driving force behind the Texas essential knowledge and skills for mathematics, guided by the college and career readiness standards. By embedding statistics, probability, and finance, while focusing on computational thinking, mathematical fluency, and solid understanding, Texas will lead the way in mathematics education and prepare all Texas students for the challenges they will face in the 21st century.	The definition of a well-balanced mathematics curriculum has expanded to include the CCRS. A focus on mathematical fluency and solid understanding allows for rich exploration of the primary focal points.	
(a) Introduction. (2) Throughout mathematics in Grades 3-5, students build a foundation of basic understandings in number, operation, and quantitative reasoning; patterns, relationships, and algebraic thinking; geometry and spatial reasoning; measurement; and probability and statistics. Students use algorithms for addition, subtractions, multiplication, and division as generalizations connect to concrete experiences; and they concretely develop basic concepts of fractions and decimals. Students use appropriate language and organizational structures such as tables and charts to represent and communicate relationships, make predictions, and solve problems. Students select and use formal language to describe their reasoning as the identify, compare, and classify two- or three-dimensional geometric figures; and they use numbers, standard units, and measurement tools to describe and compare objects, make estimates, and solve application problems. Students organize data, choose an appropriate method to display the data, and interpret the data to make decisions and predication and solve problems.	(a) Introduction. (4) The primary focal areas in Grade 3 are place value, operations of whole numbers, and understanding fractional units. These focal areas are supported throughout the mathematical strands of number and operations, algebraic reasoning, geometry and measurement, and data analysis. In Grades 3-5 the number set is limited to positive rational numbers. In number and operations, students will focus on applying place value, comparing and ordering whole numbers, connecting multiplication and division, and understanding and representing fractions as numbers and equivalent fractions. In algebraic reasoning, students will use multiple representations of problem situations, determine missing values in number sentences, and represent real-world relationships using number pairs in a table and verbal descriptions. In geometry and measurement, students will identify and classify two-dimensional figures according to common attributes, decompose composite figures formed by rectangles to determine area, determine the perimeter of polygons, solve problems involving time, and measure liquid volume (capacity) or weight. In data analysis, students will represent and interpret data.	The 2012 paragraph that highlights more specifics about grade 3 mathematics content follows paragraphs about the mathematical process standards and mathematical fluency. This supports the notion that the TEKS are expected to be learned in a way that integrates the mathematical process standards to develop fluency. The 2012 paragraph has been updated to align to the 2012 grade 3 mathematics TEKS. The 2012 paragraph highlights focal areas or topics that receive emphasis in this grade level. These are different from focal points which are part of the *Texas Response to Curriculum Focal Points [TXRCFP]*. "[A] curriculum focal point is not a single TEKS statement; a curriculum focal point is a mathematical idea or theme that is developed through appropriate arrangements of TEKS statements at that grade level that lead into a connected grouping of TEKS at the next grade level" (TEA, 2010, p. 5). The focal areas are found within the focal points. The focal points may represent a subset of a focal area, or a focal area may represent a subset of a focal point. The focal points within the *TXRCFP* list related grade-level TEKS.	

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(a) Introduction. (3) Throughout mathematics in Grades 3-5, students develop numerical fluency with conceptual understand and computational accuracy. Students in Grades 3-5 use knowledge of the base-ten place value system to compose and decompose numbers in order to solve problems requiring precision, estimation, and reasonableness. By the end of Grade 5, students know basic addition, subtraction, multiplication, and division facts and are using them to work flexibly, efficiently, and accurately with numbers during addition, subtraction, multiplication, and division computation.	(a) Introduction. (3) For students to become fluent in mathematics students must develop a robust sense of number. The National Research Council's report, "Adding It Up," defines procedural fluency as "skill in carrying out procedures flexibly, accurately, efficiently and appropriately." As students develop procedural fluency, they must also realize that true problem solving may take time, effort, and perseverance. Students in Grade 3 are expected to perform their work without the use of calculators.	The Revised TEKS (2012) include the use of the words "automaticity," "fluency"/"fluently," and "proficiency" with references to standard algorithms. Attention is being given to these descriptors to indicate benchmark levels of skill to inform intervention efforts at each grade level. These benchmark levels are aligned to national recommendations for the development of algebra readiness for enrollment in Algebra I. Automaticity refers to the rapid recall of facts and vocabulary. For example, we would expect a fifth-grade student to recall rapidly the sum of 5 and 3 or to identify rapidly a closed figure with 3 sides and 3 angles. To be mathematically proficient, students must develop conceptual understanding, procedural fluency, strategic competence, adaptive reasoning, and productive disposition (National Research Council, 2001, p. 116). "Procedural fluency refers to knowledge of procedures, knowledge of when and how to use them appropriately, and skill in performing them flexibly, accurately, and efficiently" (National Research Council, 2001, p. 121). "Students need to see that procedures can be developed that will solve entire classes of problems, not just individual problems" (National Research Council, 2001, p. 121). Procedural fluency and conceptual understanding weave together to develop mathematical proficiency.	

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(a) Introduction. (4) Problem solving, language and communication, connections within and outside mathematics, and formal and informal reasoning underlie all content areas in mathematics. Throughout mathematics in Grades 3-5, students use these processes together with technology and other mathematical tools such as manipulative materials to develop conceptual understanding and solve problems as they do mathematics.	(a) Introduction. (2) The process standards describe ways in which students are expected to engage in the content. The placement of the process skill at the beginning of the draft is intentional. The process skills weave the other knowledge and skills together so that students may be successful problems solvers and use mathematics efficiently and effectively in daily life. The process standards are integrated at every grade level and course. When possible, students will apply mathematics to problems arising in everyday life, society, and the workplace. Students will 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. Students will select appropriate tools such as real objects, manipulatives, algorithms, paper and pencil, and technology and techniques such as mental math, estimation, number sense, and generalization and abstraction to solve problems. Students will effectively communicate mathematical ideas, reasoning, and their implications using multiple representations such as symbols, diagrams, graphs, computer programs, and language. Students will analyze mathematical relationships to connect and communicate mathematical ideas. Students will display, explain, or justify mathematical ideas and arguments using precise mathematical language in written or oral communication.	This 2012 paragraph occurs second in the Revised TEKS (2012) instead of fourth as in the current TEKS. This highlights the continued emphasis on process skills that now continue from Kindergarten through high school mathematics. The language of this 2012 introductory paragraph is very similar to the Mathematical Process Standard strand within the Revised TEKS (2012). This 2012 introductory paragraph includes generalization and abstraction with the text from (1)(C). This 2012 introductory paragraph includes computer programs with the text from (1)(D). This 2012 introductory paragraph states, “students will use mathematical relationships to generate solutions and make connections and predictions.” instead of the text from (1)(E).	
	(a) Introduction. (5) Statements that contain the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.	The State Board of Education approved the retention of some “such as” statements within the TEKS where needed for clarification of content.	

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	Old TEKS: Number, Operation, and Quantitatifve Reasoning	Current TEKS (2012)	Supporting Information	Notes
⊙+	3(1)(A) **Number, operation, and quantitative reasoning.** The student uses place value to communicate about increasingly large whole numbers in verbal and written form, including money. **The student is expected to use place value to read, write (in symbols and words), and describe the value of whole numbers through 999,999.**	3(2)(A) **Number and operations.** The student applies mathematical process standards to represent and compare whole numbers and understand relationships related to place value. **The student is expected to compose and decompose numbers 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.**	Specificity has been added as to how students are expected to read, write, and describe the value of whole numbers, including expanded notation as appropriate. Composing and decomposing whole numbers may focus on place value such as the relationship between standard notation and expanded notation. It may also include decomposing 787 into the sum of 500, 200, 50, 30, and 7 to prepare for work with compatible numbers when adding whole numbers with fluency. Students are expected to represent whole numbers to 100,000 with objects and pictorial models. With the revised SE, students are not expected to address numbers between 100,000 and 1,000,000 as with the current SE.	
●+	3(1)(B) **Number, operation, and quantitative reasoning.** The student uses place value to communicate about increasingly large whole numbers in verbal and written form, including money. **The student is expected to use place value to compare and order whole numbers through 9,999.**	3(2)(D) **Number and operations.** The student applies mathematical process standards to represent and compare whole numbers and understand relationships related to place value. **The student is expected to compare and order whole numbers up to 100,000 and represent comparisons using the symbols >, <, or =.**	Specificity regarding notation has been included with the inclusion of the symbols >, <, or =. The revised SE expects students to also compare and order whole numbers between 9,999 and 100,000 in addition to whole numbers through 9,999.	
●	3(1)(C) **Number, operation, and quantitative reasoning.** The student uses place value to communicate about increasingly large whole numbers in verbal and written form, including money. **The student is expected to determine the value of a collection of coins and bills.**	3(4)(C) **Number and operations.** The student applies mathematical process standards to develop and use strategies and methods for whole number computations in order to solve problems with efficiency and accuracy. **The student is expected to determine the value of a collection of coins and bills.**	The revised SE is the same as the current SE. The knowledge and skills statement clarifies that the focus is whole number computations so students are expected to determine the collection of coins in cents.	
●+	3(2)(A) **Number, operation, and quantitative reasoning.** The student uses fraction names and symbols (with denominators of 12 or less) to describe fractional parts of whole objects or sets of objects. **The student is expected to construct concrete models of fractions.**	3(3)(A) **Number and operations.** The student applies mathematical process standards to represent and explain fractional units. **The student is expected to 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.**	Specificity has been added for the fractions that students are expected to model. Fractions are greater than zero and less than or equal to one. The denominators may be 2, 3, 4, 6, or 8. Concrete models should be linear in nature to build to the use of strip diagrams and number lines. Students are expected to represent fractions using pictorial models, including strip diagrams and number lines.	

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	Old TEKS: Number, Operation, and Quantitatifve Reasoning	Current TEKS (2012)	Supporting Information	Notes
●+	3(2)(B) **Number, operation, and quantitative reasoning.** The student uses fraction names and symbols (with denominators of 12 or less) to describe fractional parts of whole objects or sets of objects **The student is expected to compare fractional parts of whole objects or sets of objects in a problem situation using concrete models.**	3(3)(H) **Number and operations.**The student applies mathematical process standards to represent and explain fractional units. **The student is expected to 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.**	The revised SE adds specificity to the number of fractions a student compares. It also adds specificity to the types of fractions being compared: two fractions having the same numerator or denominator. Fractions should have denominators of 2, 3, 4, 6, or 8. Examples include situations such as comparing the size of one piece when sharing a candy bar equally among four people or equally among three people. Students justify conclusions using objects. Students justify conclusions about their comparisons using symbols, words, and pictorial models.	
●+	3(2)(C) **Number, operation, and quantitative reasoning.** The student uses fraction names and symbols (with denominators of 12 or less) to describe fractional parts of whole objects or sets of objects. **The student is expected to use fraction names and symbols to describe fractional parts of whole objects or sets of objects.**	3(3)(C) **Number and operations.**The student applies mathematical process standards to represent and explain fractional units. **The student is expected to 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.**	The current SE was separated into three revised SEs. Revised SE 3(3)(C) focuses on unit fractions. Specificity has been added to the descriptions students are expected to provide with symbols for writing fractions. Fractions should have denominators of 2, 3, 4, 6, or 8. Students are expected to describe or explain the fraction 1/b as 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. A fraction may a part of a whole object or part of a set of objects.	
		3(3)(D) **Number and operations.**The student applies mathematical process standards to represent and explain fractional units. **The student is expected to 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*.**	The current SE was separated into three revised SEs. Revised SE 3(3)(D) focuses on non-unit fractions. Fractions should have denominators of 2, 3, 4, 6, or 8. Specificity has been added as to how students are expected to describe fractional parts of whole objects. Students are expected to compose and decompose fractions. For example, 3/8=1/8+1/8+1/8. A fraction may be a part of a whole object or part of a set of objects to build to 3(3)(E).	

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	Old TEKS: Number, Operation, and Quantitatifve Reasoning	Current TEKS (2012)	Supporting Information	Notes
	3(2)(C) **Number, operation, and quantitative reasoning.** The student uses fraction names and symbols (with denominators of 12 or less) to describe fractional parts of whole objects or sets of objects. **The student is expected to use fraction names and symbols to describe fractional parts of whole objects or sets of objects.**	3(3)(E) **Number and operations.**The student applies mathematical process standards to represent and explain fractional units. **The student is expected to 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.**	The current SE was separated into three revised SEs. Revised SE 3(3)(E) focuses on solving problems with fractional parts of whole objects or sets of objects. Fractions should have denominators of 2, 3, 4, 6, or 8. A fraction may be a part of a whole object or part of a set of objects. Examples of problems include situations such as 2 children sharing 5 cookies.	
●+	3(2)(D) **Number, operation, and quantitative reasoning.** The student uses fraction names and symbols (with denominators of 12 or less) to describe fractional parts of whole objects or sets of objects. **The student is expected to construct concrete models of equivalent fractions for fractional parts of whole objects.**	3(3)(F) **Number and operations.**The student applies mathematical process standards to represent and explain fractional units. **The student is expected to represent equivalent fractions with denominators of 2, 3, 4, 6, and 8 using a variety of objects and pictorial models, including number lines.**	Specificity has been added for the fractions that students are expected to model. Fractions are greater than zero and less than or equal to one. The denominators may be 2, 3, 4, 6, or 8. Objects, also called concrete models, that are linear in nature build to the use of strip diagrams as a pictorial model and number lines. The revised SE includes the use of pictorial models, such as strip diagrams, and number lines.	
●+	3(3)(A) **Number, operation, and quantitative reasoning.** The student adds and subtracts to solve meaningful problems involving whole numbers. **The student is expected to model addition and subtraction using pictures, words, and numbers.**	3(5)(A) **Algebraic reasoning.** The student applies mathematical process standards to analyze and create patterns and relationships. **The student is expected to represent one- and two-step problems involving addition and subtraction of whole numbers to 1,000 using pictorial models, number lines, and equations.**	Specificity has been added about the types of problems with the description of one- and two-step problems. Specificity has been added to the numbers contained within the problems as "whole numbers to 1,000." Pictorial models should build to the use of number lines, such as a strip diagram. The revised SE includes the use of number lines and equations to represent the problems.	

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●+	3(3)(B) **Number, operation, and quantitative reasoning.** The student adds and subtracts to solve meaningful problems involving whole numbers. **The student is expected to select addition or subtraction and use the operation to solve problems involving whole numbers through 999.**	3(4)(A) **Number and operations.**The student applies mathematical process standards to develop and use strategies and methods for whole number computations in order to solve problems with efficiency and accuracy. **The student is expected to 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.**	Specificity has been added about the types of problems with the description of one- and two-step problems. Specificity continues with the numbers contained within the problems as “whole numbers within 1,000.”	
			The revised SE includes specific approaches to solving the one-step and two-step problems: strategies based on place value, properties of operations, and the relationship between addition and subtraction. The one-step problem prompts students to add numbers such as 237 and 547. If using strategies based on place value, a student might add the hundreds to get 700, the tens to get 70, and the ones to get 14 and then combine 700, 70, and 14 to have a sum of 784. If using a strategy based on properties of operations, a student may consider that 237 + 547 is equivalent to 237+(500+47)=(237+500)+47=737+47=784. If using a strategy based on the relationship between addition and subtraction, a student might subtract 63 from 547 and add it to 237 to have 300 and 484 which add to give 784. The revised SE includes fluency.	
⦿+	3(4)(A) **Number, operation, and quantitative reasoning.** The student recognizes and solves problems in multiplication and division situations. **The student is expected to learn and apply multiplication facts through 12 by 12 using concrete models and objects.**	3(4)(D) **Number and operations.** The student applies mathematical process standards to develop and use strategies and methods for whole number computations in order to solve problems with efficiency and accuracy. **The student is expected to determine the total number of objects when equally-sized groups of objects are combined or arranged in arrays up to 10 by 10.**	Specificity has been added for the use of concrete models and objects. Arrays should reflect the combination of equally-sized groups of objects.	
			The learning of facts related to 11s and 12s is not included in the Revised TEKS (2012).	
		3(4)(E) **Number and operations.**The student applies mathematical process standards to develop and use strategies and methods for whole number computations in order to solve problems with efficiency and accuracy. **The student is expected to 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.**	Specificity has been added about strategies that support the learning of multiplication facts: repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line, and skip counting.	
			The learning of facts related to 11s and 12s is not included in the Revised TEKS (2012).	

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	Old TEKS: Number, Operation, and Quantitatifve Reasoning	Current TEKS (2012)	Supporting Information	Notes
	3(4)(A) **Number, operation, and quantitative reasoning.** The student recognizes and solves problems in multiplication and division situations. **The student is expected to learn and apply multiplication facts through 12 by 12 using concrete models and objects.**	3(4)(F) **Number and operations.**The student applies mathematical process standards to develop and use strategies and methods for whole number computations in order to solve problems with efficiency and accuracy. **The student is expected to recall facts to multiply up to 10 by 10 with automaticity and recall the corresponding division facts.**	The recall of multiplication facts up to 10 by 10 with automaticity has moved from grade 4: *Number, operation, and quantitative reasoning* 4(4)(C) Recalling with automaticity facts related to 11s and 12s is not included in the Revised TEKS (2012).	
●+	3(4)(B) **Number, operation, and quantitative reasoning.** The student recognizes and solves problems in multiplication and division situations. **The student is expected to solve and record multiplication problems (up to two digits times one digit).**	3(4)(G) **Number and operations.**The student applies mathematical process standards to develop and use strategies and methods for whole number computations in order to solve problems with efficiency and accuracy. **The student is expected to 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.**	Specificity has been added with strategies and algorithms that may be used to record and solve multiplication problems of a two-digit by a one-digit number. Strategies and algorithms include mental math; partial products; the commutative, associative, and distributive properties; and the standard algorithm. For example, when prompted to multiply 97x3, a student may determine the product by multiplying 90x3 and 7x3 and adding 270 and 21 for an answer of 291. A student may also think of 97x3 as (100-3)x3 and multiply 100x3 to get 300 and subtract 3x3 or 9 for an answer of 291.	
		3(4)(K) **Number and operations.**The student applies mathematical process standards to develop and use strategies and methods for whole number computations in order to solve problems with efficiency and accuracy. **The student is expected to 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.**	Revised SE 3(4)(K) builds to the revised SE 3(5)(B). The focus of 3(4)(K) is on developing number-based strategies to solve multiplication and division problems within 100. This could include multiplying a two-digit number by a one-digit number. Specificity has been added with strategies that may have been used to solve multiplication problems with the current SE: arrays, area models, and equal groups; properties of operations; or recall of facts. Specificity has been added that problems may be one- or two-step problems. With revised SE 3(4)(K), the product must be less than 100.	

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	Old TEKS: Number, Operation, and Quantitatifve Reasoning	Current TEKS (2012)	Supporting Information	Notes
●+	3(4)(C) **Number, operation, and quantitative reasoning.** The student recognizes and solves problems in multiplication and division situations. **The student is expected to use models to solve division problems and use number sentences to record the solutions.**	3(4)(H) **Number and operations.**The student applies mathematical process standards to develop and use strategies and methods for whole number computations in order to solve problems with efficiency and accuracy. **The student is expected to 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.**	Specificity has been added on how to use models to solve division problems. Students are expected to think with both forms of division: partitioning into equal shares (determining the number of groups with a given number of objects in each group) and sharing equally (determining the number of items in each group when the objects are shared equally among a given number). When paired with revised SEs 3(1)(D) and 3(1)(E), students may be asked to use number sentences to record the solutions.	
		3(4)(K) **Number and operations.**The student applies mathematical process standards to develop and use strategies and methods for whole number computations in order to solve problems with efficiency and accuracy. **The student is expected to 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.**	The Revised SE 3(4)(K) builds to the Revised SE 3(5)(B). The focus of 3(4)(K) is on developing number-based strategies to solve multiplication and division problems within 100. The use of models in the current SE includes the use of objects.	
			With revised SE 3(4)(K), the dividend must be less than 100. Strategies to solve division problems other than concrete models, or objects, are included: pictorial models, including arrays, area models, and equal groups; properties of operations; and recall of facts.	
●	3(5)(A) **Number, operation and quantitative reasoning.** The student estimates to determine reasonable results. **The student is expected to round whole numbers to the nearest ten or hundred to approximate reasonable results in problem situations.**	3(4)(B) **Number and operations.**The student applies mathematical process standards to develop and use strategies and methods for whole number computations in order to solve problems with efficiency and accuracy. **The student is expected to round to the nearest 10 or 100 or use compatible numbers to estimate solutions to addition and subtraction problems.**	The current SEs 3(5)(A) and 3(5)B have been combined to form the revised SE 3(4)(B).	
	3(5)(B) **Number, operation and quantitative reasoning.** The student estimates to determine reasonable results. **The student is expected to use strategies including rounding and compatible numbers to estimate solutions to addition and subtraction problems.**			

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+	3(2)(B) **Number and operations.** The student applies mathematical process standards to represent and compare whole numbers and understand relationships related to place value. **The student is expected to describe the mathematical relationships found in the base-10 place value system through the hundred thousands place.**	The mathematical relationships include interpreting the value of each place-value position as ten times the position to the right. The revised SE 3(2)(B) builds to the revised SE 4(2)(A).	
+	3(2)(C) **Number and operations.** The student applies mathematical process standards to represent and compare whole numbers and understand relationships related to place value. **The student is expected to 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.**	This builds on number line understandings from grade 2 with Revised SEs 2(2)(E) and 2(2)(F). Words may include phrases such as "closer to," "is about," or "is nearly."	
+	3(3)(G) **Number and operations.** The student applies mathematical process standards to represent and explain fractional units. **The student is expected to 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.**	The emphasis with this revised SE is on the understanding that equivalent fractions must be describing the same whole. 6/8 does not equal ¾ when the 6/8 is part of a candy bar and the ¾ is part of a pizza. While they both describe ¾ of their respective wholes, the amounts described by 6/8 and ¾ are not the same.	
+	3(4)(I) **Number and operations.** The student applies mathematical process standards to develop and use strategies and methods for whole number computations in order to solve problems with efficiency and accuracy. **The student is expected to determine if a number is even or odd using divisibility rules.**	To determine if a number is even, one may apply the divisibility rule for 2: A number is divisible by 2 if the ones digit is even (0, 2, 4, 6, or 8).	

	Old TEKS: Patterns, Relationships, and Algebraic Thinking	Current TEKS (2012)	Supporting Information	Notes
–	3(6)(A) **Patterns, relationships, and algebraic thinking.** The student uses patterns to solve problems. **The student is expected to identify and extend whole-number and geometric patterns to make predictions and solve problems.**		This skill is not included explicitly within the Revised TEKS (2012).	
●	3(6)(B) **Patterns, relationships, and algebraic thinking.** The student uses patterns to solve problems. **The student is expected to identify patterns in multiplication facts using concrete objects, pictorial models, or technology.**	3(4)(E) **Number and operations.** The student applies mathematical process standards to develop and use strategies and methods for whole number computations in order to solve problems with efficiency and accuracy. **The student is expected to 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.**	Specificity for patterns in multiplication facts has been added with repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line, and skip counting.	
●+	3(6)(C) **Patterns, relationships, and algebraic thinking.** The student uses patterns to solve problems. **The student is expected to identify patterns in related multiplication and division sentences (fact families) such as 2 x 3 = 6, 3 x 2 = 6, 6 ÷ 2 = 3, 6 ÷ 3 = 2.**	3(4)(J) **Number and operations.** The student applies mathematical process standards to develop and use strategies and methods for whole number computations in order to solve problems with efficiency and accuracy. **The student is expected to determine a quotient using the relationship between multiplication and division.**	The identification of the relationship between multiplication and division, as seen in fact families, lays the foundation for determining a quotient based on this relationship. Specificity has been added to identify the purpose of the relationship between multiplication and division to determining a quotient. For example, the quotient of 40÷8 can be found by determining what factor makes 40 when multiplied by 8.	
		3(5)(D) **Algebraic reasoning.** The student applies mathematical process standards to analyze and create patterns and relationships. **The student is expected to 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.**	If the multiplication or division equation relates whole numbers from fact families up to 10x10, students may apply their knowledge of facts and the relationship between multiplication and division to determine the unknown number. Students may be expected to use the relationship between multiplication and division for a problem such as 12=[]÷6. The student knows that if 12=[]÷6 then 12x6=[], so []=72. Students may also be expected to solve problems where they state that the value 4 makes 3x[]=12 a true equation.	

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	Old TEKS: Patterns, Relationships, and Algebraic Thinking	Current TEKS (2012)	Supporting Information	Notes
●	3(7)(A) **Patterns, relationships, and algebraic thinking.** The student uses lists, tables, and charts to express patterns and relationships. **The student is expected to generate a table of paired numbers based on a real-life situation such as insects and legs.** 3(7)(B) **Patterns, relationships, and algebraic thinking.** The student uses lists, tables, and charts to express patterns and relationships. **The student is expected to identify and describe patterns in a table of related number pairs based on a meaningful problem and extend the table.**	3(5)(E) **Algebraic reasoning.** The student applies mathematical process standards to analyze and create patterns and relationships. **The student is expected to represent real-world relationships using number pairs in a table and verbal descriptions.**	When paired with revised SE 3(1)(A), the expectation is that students apply this skill in a problem arising in everyday life, society, and the workplace. When paired with revised SE 3(1)(D), the expectation is that students extend the relationship represented in a table to explore and communicate the implications of the relationship. The revised SE restates "generate" as "represent," a more appropriate verb to use when multiple representations such as tables are used to represent a real-world relationship. It also restates "identify and describe patterns in a table" with "represent real-world relationships using . . . verbal descriptions." The revised SE 3(5)(E) builds to the revised SE 4(5)(B). Real-world relationships include situations such as the following: 1 insect has 6 legs, 2 insects have 12 legs, and so forth.	
+		3(5)(B) **Algebraic reasoning.** The student applies mathematical process standards to analyze and create patterns and relationships. **The student is expected to represent and solve one- and two-step multiplication and division problems within 100 using arrays, strip diagrams, and equations.**	The Revised SE 3(5)(B) is an extension of the Revised SE 3(4)(K). The focus of 3(5)(B) is on developing representations that build to numeric equations for multiplication and division situations by connecting arrays to strip diagrams.	
+		3(5)(C) **Algebraic reasoning.** The student applies mathematical process standards to analyze and create patterns and relationships. **The student is expected to describe a multiplication expression as a comparison such as 3 x 24 represents 3 times as much as 24.**	With the current SEs related to multiplication, discussions have focused on multiplication as repeated addition, so 3x24 is often described as 3 groups of 24. With the revised SE, students also focus on the numerical relationship between 24 and the product 3x24. The product of 3x24 will be 3 times as much as 24. This lays the foundation for future work in grade 5 with fraction multiplication and determining part of a number.	

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	Old TEKS: Geometry and Spatial Reasoning	Current TEKS (2012)	Supporting Information	Notes
●+	3(8) **Geometry and spatial reasoning.** The student uses formal geometric vocabulary. **The student is expected to identify, classify, and describe two- and three-dimensional geometric figures by their attributes. The student compares two-dimensional figures, three-dimensional figures, or both by their attributes using formal geometry vocabulary.**	3(6)(A) **Geometry and measurement.** The student applies mathematical process standards to analyze attributes of two-dimensional geometric figures to develop generalizations about their properties. **The student is expected to 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.**	Specificity is added regarding 3-d figures with the inclusion of cones, cylinders, spheres, triangular and rectangular prisms, and cubes. Formal geometric language includes terms such as "vertex," "edge," and "face." The revised SE includes sorting 2-d and 3-d figures based on attributes.	
		3(6)(B) **Geometry and measurement.** The student applies mathematical process standards to analyze attributes of two-dimensional geometric figures to develop generalizations about their properties. **The student is expected to 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.**	Specificity is added regarding the identification or recognition of quadrilaterals as a subcategory of 2-d figures. Specific quadrilaterals are identified: rhombuses, parallelograms, trapezoids, rectangles, and squares.	
–	3(9)(A) **Geometry and spatial reasoning.** The student recognizes congruence and symmetry. **The student is expected to identify congruent two-dimensional figures**.		The content of this SE was moved to grade 8: *Two-dimensional shapes* 8(10)(B)	
–	3(9)(B) **Geometry and spatial reasoning.** The student recognizes congruence and symmetry. **The student is expected to create two-dimensional figures with lines of symmetry using concrete models and technology.**		This skill is not included within the Revised TEKS (2012).	
–	3(9)(C) **Geometry and spatial reasoning.** The student recognizes congruence and symmetry. **The student is expected to identify lines of symmetry in two-dimensional geometric figures.**		The content of this SE was moved to grade 4: *Geometry and measurement* 4(6)(B)	

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	Old TEKS: Geometry and Spatial Reasoning	Current TEKS (2012)	Supporting Information	Notes
●	3(10)**Geometry and spatial reasoning.** The student recognizes that a line can be used to represent numbers and fractions and their properties and relationships. **The student is expected to locate and name points on a number line using whole numbers and fractions, including halves and fourths.**	3(3)(B) **Number and operations.**The student applies mathematical process standards to represent and explain fractional units. **The student is expected to 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.**	Specificity has been added: the fractions for a specified point on a number line may be thirds, sixths, and eighths in addition to halves and fourths. The focus of the Revised SE 3(3)(B) is on the part to whole representations using tick marks on a number line.	
		3(7)(A) **Geometry and measurement.**The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving customary and metric measurement. **The student is expected to represent fractions of halves, fourths, and eighths as distances from zero on a number line**.	The focus of the Revised SE 3(7)(A) is on the length of the portion of a number between 0 and the location of the point. The Revised SE 3(7)(A) builds to the Revised SE 4(3)(G) where any fraction or decimals to tenths or hundredths may be represented as distances from zero on a number line.	

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	Old TEKS: Measurement	Current TEKS (2012)	Supporting Information	Notes
–	3(11)(A) **Measurement.** The student directly compares the attributes of length, area, weight/mass, and capacity, and use comparative language to solve problems and answer questions. The student selects and uses standard units to describe length, area, capacity/volume, and weight/mass. **The student is expected to use linear measurement tools to estimate and measure lengths using standard units.**		This skill is not included explicitly within the Revised TEKS (2012). This SE is subsumed within revised SE 3(1)(C) as linear measurement tools may be among the tools that students select to solve problems.	
● +	3(11)(B) **Measurement.** The student directly compares the attributes of length, area, weight/mass, and capacity, and use comparative language to solve problems and answer questions. The student selects and uses standard units to describe length, area, capacity/volume, and weight/mass. **The student is expected to use standard units to find perimeter of a shape.**	3(7)(B) **Geometry and measurement.**The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving customary and metric measurement. **The student is expected to determine the perimeter of a polygon or a missing length when given perimeter and remaining side lengths in problems.**	Students may measure the side lengths of a polygon to determine its perimeter using inches or centimeters. Side lengths should be whole numbers. Students may be expected to determine a missing side length of a polygon when given the perimeter of the polygon and the remaining side lengths.	
●	3(11)(C) **Measurement.** The student directly compares the attributes of length, area, weight/mass, and capacity, and use comparative language to solve problems and answer questions. The student selects and uses standard units to describe length, area, capacity/volume, and weight/mass. **The student is expected to use concrete and pictorial models of square units to determine the area of two-dimensional surfaces.**	3(6)(C) **Geometry and measurement.**The student applies mathematical process standards to analyze attributes of two-dimensional geometric figures to develop generalizations about their properties. **The student is expected to 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.**	The revised SE limits the two-dimensional surfaces to rectangles with whole number side lengths. Students may use concrete or pictorial models of square units to represent the number of rows and the number of unit squares in each row. Units of area may be square inches or square centimeters. Students are expected to use multiplication to determine the area of a rectangle instead of counting squares.	
○ +	3(11)(D) **Measurement.** The student directly compares the attributes of length, area, weight/mass, and capacity, and use comparative language to solve problems and answer questions. The student selects and uses standard units to describe length, area, capacity/volume, and weight/mass. **The student is expected to identify concrete models that approximate standard units of weight/mass and use them to measure weight/mass.**	3(7)(E) **Geometry and measurement.**The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving customary and metric measurement. **The student is expected to determine liquid volume (capacity) or weight using appropriate units and tools.**	With the revised SE, students are not expected to identify concrete models that approximate standard units of weight. With the revised SE, students are not expected to determine mass. Students are measuring weight. Students are expected to use appropriate units and tools to determine weight in the customary system.	

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	Old TEKS: Measurement	Current TEKS (2012)	Supporting Information	Notes
⦿+	3(11)(E) **Measurement.** The student directly compares the attributes of length, area, weight/mass, and capacity, and use comparative language to solve problems and answer questions. The student selects and uses standard units to describe length, area, capacity/volume, and weight/mass. **The student is expected to identify concrete models that approximate standard units for capacity and use them to measure capacity.**	3(7)(E) **Geometry and measurement.**The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving customary and metric measurement. **The student is expected to determine liquid volume (capacity) or weight using appropriate units and tools.**	With the revised SE, students are not expected to identify concrete models that approximate standard units of liquid volume (capacity). Students are measuring liquid volume (capacity). Students are expected to use appropriate units and tools to determine liquid volume (capacity) in the customary and metric systems.	
–	3(11)(F) **Measurement.** The student directly compares the attributes of length, area, weight/mass, and capacity, and use comparative language to solve problems and answer questions. The student selects and uses standard units to describe length, area, capacity/volume, and weight/mass. **The student is expected to use concrete models that approximate cubic units to determine the volume of a given container or other three-dimensional geometric figure.**		The content of this SE was moved to grade 5: *Geometry and measurement* 5(6)(A) 5(6)(B)	
–	3(12)(A) **Measurement.** The student reads and writes time and measures temperature in degrees Fahrenheit to solve problems. **The student is expected to use a thermometer to measure temperature.**		This skill is not included explicitly within the Revised TEKS (2012).	
⦿+	3(12)(B) **Measurement.** The student reads and writes time and measures temperature in degrees Fahrenheit to solve problems. **The student is expected to tell and write time shown on analog and digital clocks.**	3(7)(C) **Geometry and measurement.**The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving customary and metric measurement. **The student is expected to 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.**	The skill of telling and writing time has moved to grade 2: *Geometry and measurement* 2(9)(G) When paired with 4(1)(C), students may be asked to use tools, such as analog and digital clocks, to solve problems related to the addition and subtraction of intervals of time in minutes. The revised SE 3(7)(C) builds to 4(8)(C). Students are expected to solve problems involving intervals of time. With the length of intervals provided, the focus is on the conversion of 60 minutes to an hour when considering time intervals.	

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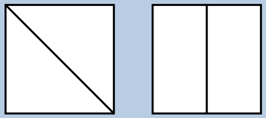
Old TEKS: Measurement	Current TEKS (2012)	Supporting Information	Notes
+	3(6)(D) **Geometry and measurement.** The student applies mathematical process standards to analyze attributes of two-dimensional geometric figures to develop generalizations about their properties. **The student is expected to decompose composite figures formed by rectangles into non-overlapping rectangles to determine the area of the original figure using the additive property of area.**	Composite figures should be comprised of no more than three rectangles, including squares as special cases of rectangles.	
+	3(6)(E) **Geometry and measurement.** The student applies mathematical process standards to analyze attributes of two-dimensional geometric figures to develop generalizations about their properties. **The student is expected to 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.**	Students may be expected to separate two congruent squares in half in two different ways.  Students may be expected to identify that the smaller parts represent one-half of each of the original squares even though the halves from one square are not congruent to the halves in the other square.	
+	3(7)(D) **Geometry and measurement.** The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving customary and metric measurement. **The student is expected to determine when it is appropriate to use measurements of liquid volume (capacity) or weight.**	Students are expected to distinguish between liquid ounces and ounces that measure weight.	

	Old TEKS: Probability and statistics	Current TEKS (2012)	Supporting Information	Notes
●+	3(13)(A) **Probability and statistics.** The student solves problems by collecting, organizing, displaying, and interpreting sets of data. **The student is expected to collect, organize, record, and display data in pictographs and bar graphs where each picture or cell might represent more than one piece of data.**	3(8)(A) **Data analysis.** The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. **The student is expected to summarize a data set with multiple categories using a frequency table, dot plot, pictograph, or bar graph with scaled intervals.**	The phrase "where each picture or cell might represent more than one piece of data" has been restated as "with scaled intervals." A frequency table shows how often an item, a number, or a range of numbers occurs. Tallies and counts are used to record frequencies. Students begin work with frequency tables in grade 3. A dot plot may be used to represent frequencies. A number line may be used for counts related to numbers. A line labeled with categories may be used as well if the context requires. Dots are recorded vertically above the number line to indicate frequencies. Dots may represent one count or multiple counts if so noted. Students begin work with dot plots in grade 3.	
●+	3(13)(B) **Probability and statistics.** The student solves problems by collecting, organizing, displaying, and interpreting sets of data. **The student is expected to interpret information from pictographs and bar graphs.**	3(8)(B) **Data analysis.** The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. **The student is expected to solve one- and two-step problems using categorical data represented with a frequency table, dot plot, pictograph, or bar graph with scaled intervals.**	Students begin work with pictographs in grade K and bar graphs in grade 1 with the Revised TEKS (2012). Specificity for the purpose of interpreting graphs has been added with the phrase "solve one- and two-step problems." Specificity has been added regarding the type of data. Categorical data are the focus in grade 3. Specificity regarding the graphical representations has been added with the phrase "with scaled intervals." Students begin work with frequency tables and dot plots in grade 3 with the Revised TEKS (2012).	
−	3(13)(C) **Probability and statistics.** The student solves problems by collecting, organizing, displaying, and interpreting sets of data. **The student is expected to use data to describe events as more likely than, less likely than, or equally likely as.**		The content of this SE was moved to grade 7: *Proportionality* 7(6)(C)	

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<table>
<tr><th></th><th>Old TEKS: Underlying Processes and Mathematical Tools</th><th>Current TEKS (2012)</th><th>Supporting Information</th><th>Notes</th></tr>
<tr><td>●</td><td>3(14)(A) Underlying processes and mathematical tools. The student applies Grade 3 mathematics to solve problems connected to everyday experiences and activities in and outside of school.

The student is expected to identify the mathematics in everyday situations.</td><td>3(1)(A) Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding.

The student is expected to apply mathematics to problems arising in everyday life, society, and the workplace.</td><td>The focus has shifted to application.

The opportunities for application have been consolidated into three areas: everyday life, society, and the workplace.

This SE, when tagged to a content SE, allows for increased rigor through connections outside the discipline.</td><td></td></tr>
<tr><td>●</td><td>3(14)(B) Underlying processes and mathematical tools. The student applies Grade 3 mathematics to solve problems connected to everyday experiences and activities in and outside of school.

The student is expected to solve problems that incorporate understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness.</td><td rowspan="2">3(1)(B) Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding.

The student is expected to 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.</td><td rowspan="2">The revised SE restates and condenses 3(14)(B) and 3(14)(C).

<table><tr><th colspan="2">Problem-Solving Model</th></tr><tr><th>Current TEKS</th><th>Revised TEKS (2012)</th></tr><tr><td>Understanding the problem</td><td>Analyzing given information</td></tr><tr><td>Making a plan</td><td>Formulating a plan or strategy</td></tr><tr><td>Carrying out the plan</td><td>Determining a solution</td></tr><tr><td></td><td>Justifying the solution</td></tr><tr><td>Evaluating the solution for reasonableness</td><td>Evaluating the problem-solving process and the reasonableness of the solution</td></tr></table></td><td rowspan="2"></td></tr>
<tr><td>●</td><td>3(14)(C) Underlying processes and mathematical tools. The student applies Grade 3 mathematics to solve problems connected to everyday experiences and activities in and outside of school.

The student is expected to select or develop an appropriate problem-solving plan or strategy including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem.</td></tr>
<tr><td>●</td><td>3(14)(D) Underlying processes and mathematical tools. The student applies Grade 3 mathematics to solve problems connected to everyday experiences and activities in and outside of school.

The student is expected to use tools such as real objects, manipulatives, and technology to solve problems.</td><td>3(1)(C) Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding.

The student is expected to 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.</td><td>The phrase “as appropriate” has been inserted into the Revised TEKS (2012). This implies that students are assessing which tool to apply rather than trying only one or all.

“Paper and pencil” is now included in the list of tools that still includes real objects, manipulatives, and technology.</td><td></td></tr>
</table>

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	Old TEKS: Underlying Processes and Mathematical Tools	Current TEKS (2012)	Supporting Information	Notes
●	3(15)(A) **Underlying processes and mathematical tools.** The student communicates about Grade 3 mathematics using informal language. **The student is expected to explain and record observations using objects, words, pictures, numbers, and technology.**	3(1)(D) **Mathematical process standards.** The student uses mathematical processes to acquire and demonstrate mathematical understanding. **The student is expected to communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.**	Communication has expanded to include "reasoning" and the implications of mathematical ideas and reasoning. The list of representations is now summarized with "multiple representations" with specificity added for symbols and diagrams.	
●	3(15)(B) **Underlying processes and mathematical tools.** The student communicates about Grade 3 mathematics using informal language. **The student is expected to relate informal language to mathematical language and symbols.**	3(1)(E) **Mathematical process standards.** The student uses mathematical processes to acquire and demonstrate mathematical understanding. **The student is expected to create and use representations to organize, record, and communicate mathematical ideas.**	The use of representations is extended to include organizing and recording mathematical ideas in addition to communicating. As students use and create representations, it is implied that they will evaluate the effectiveness of their representations to ensure that they are communicating mathematical ideas clearly. Students are expected to use appropriate mathematical vocabulary and phrasing when communicating mathematical ideas.	
●	3(16)(A) **Underlying processes and mathematical tools.** The student uses logical reasoning. **The student is expected to make generalizations from patterns or sets of examples and nonexamples.**	3(1)(F) **Mathematical process standards.** The student uses mathematical processes to acquire and demonstrate mathematical understanding. **The student is expected to analyze mathematical relationships to connect and communicate mathematical ideas.**	The Revised TEKS (2012) extends the current TEKS to allow for additional means to analyze relationships and to form connections with mathematical ideas past conjecturing and sets of examples and non-examples. Students are expected to form conjectures based on patterns or sets of examples and non-examples.	
●	3(16)(B) **Underlying processes and mathematical tools.** The student uses logical reasoning. **The student is expected to justify why an answer is reasonable and explain the solution process.**	3(1)(G) **Mathematical process standards.** The student uses mathematical processes to acquire and demonstrate mathematical understanding. **The student is expected to display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.**	The Revised TEKS (2012) clarifies "validates his/her conclusions" with displays, explanations, and justifications. The conclusions should focus on mathematical ideas and arguments. Displays could include diagrams, visual aids, written work, etc. The intention is make one's work visible to others so that explanations and justifications may be shared in written or oral form. Precise mathematical language is expected. For example, students would use "vertex" instead of "corner" when referring to the point at which two edges intersect on a polygon.	

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Old TEKS: Financial Literacy	Current TEKS (2012)	Supporting Information	Notes
+	3(9)(A) **Personal financial literacy.** The student applies mathematical process standards to manage one's financial resources effectively for lifetime financial security. **The student is expected to explain the connection between human capital/labor and income.**		
+	3(9)(B) **Personal financial literacy.** The student applies mathematical process standards to manage one's financial resources effectively for lifetime financial security. **The student is expected to describe the relationship between the availability or scarcity of resources and how that impacts cost.**		
+	3(9)(C) **Personal financial literacy.** The student applies mathematical process standards to manage one's financial resources effectively for lifetime financial security. **The student is expected to identify the cost and benefits of planned and unplanned spending decisions.**		
+	3(9)(D) **Personal financial literacy.** The student applies mathematical process standards to manage one's financial resources effectively for lifetime financial security. **The student is expected to 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.**		
+	3(9)(E) **Personal financial literacy.** The student applies mathematical process standards to manage one's financial resources effectively for lifetime financial security. **The student is expected to list reasons to save and explain the benefit of a savings plan, including for college.**		
+	3(9)(F) **Personal financial literacy.** The student applies mathematical process standards to manage one's financial resources effectively for lifetime financial security. **The student is expected to identify decisions involving income, spending, saving, credit, and charitable giving.**		

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