

Introduction 

vised Mathematic

2008 TEKS	& X U U H Q W T E K S (2012)	Supporting Information	Notes
<p>(a) Introduction.</p> <p>(3) Problem solving in meaningful contexts, language and communication, connections within and outside mathematics, and formal and informal reasoning underlie all content areas in mathematics. Throughout mathematics in Grades 6 -8, students use these processes together with graphing technology and other mathematical tools such as manipulative materials to develop conceptual understanding and solve problems as they do mathematics.</p>	<p>(a) Introduction.</p> <p>(2) The process standards describe ways in which students are expected to engage in the content. The placement of the process standards at the beginning of the knowledge and skills listed for each grade and course is intentional. The process standards weave the other knowledge and skills together so that students may be successful problem 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 use mathematical relationships to generate solutions and make connections and predictions. 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.</p>	<p>This 2012 paragraph occurs second in the Revised TEKS (2012) instead of third as in the current TEKS. This highlights the continued emphasis on process skills that now continue from Kindergarten through high school mathematics .</p> <p>The language of this 2012 introductory paragraph is very similar to the Mathematical process standard strand within the Revised TEKS (2012) .</p> <p>This 2012 introductory paragraph includes generalization and abstraction with the text from 8(1)(C).</p> <p>This 2012 introductory paragraph states, “students will use mathematical relationships to generate solutions and make connections and predictions” instead of the text from 8(1)(E).</p>	
	<p>(a) Introduction.</p> <p>(4) Statements that contain the word "including" reference content that must be mastered, while those containing the</p>		

Grade 8 – Mathematics


2 O G TEKS Number, Operation, and
Quantitative Reasoning Standards

& X U U H Q W T EKS)

Supporting Information

Notes

8(1)(A) Number, operation, and



Grade 8 – Mathematics

2 O G TEKS Number, Operation, and Quantitative Reasoning Strand	& XU UHQW TEKS	Supporting Information	Notes
<p>8(1)(D) Number, operation, and quantitative reasoning. The student understands that different forms of numbers are appropriate for different situations. The student is expected to express numbers in scientific notation, including negative exponents, in appropriate problem situations.</p>	<p>8(2)(C) Number and operations. The student applies mathematical process standards to represent and use real numbers in a variety of forms. The student is expected to convert between standard decimal notation and scientific notation.</p>	<p>Mathematical process standard (8)(1)(A) addresses problem situations.</p> <p>Specificity has been added with the clarification of changing “express numbers” to “convert between .”</p> <p>Negative exponents are part of scientific notation. The “including” statement in the original SE is redundant.</p>	

Grade 8 – Mathematics

2 O G TEKS Number, Operation, and Quantitative Reasoning Strand	& X U U H Q W TEKS	Supporting Information	Notes
		Note: Determining k is now a specified skill in grade 7: Proportionality 7(4)(C)	

Grade 8 – Mathematics

2012 TEKS Patterns, Relationships, and Algebraic Thinking Strand	& X U U H Q W T EKS	Supporting Information	Notes
<p>8(4) Patterns, relationships, and algebraic thinking. The student makes connections among various representations of a numerical relationship. The student is expected to generate a different representation of data given another representation of data (such as a table, graph, equation, or verbal description).</p>	<p>8(5)(A) Proportionality. The student applies mathematical process standards to use proportional and non-proportional relationships to develop foundational concepts of functions. The student is expected to represent linear proportional situations with tables, graphs, and equations in the form of $y = kx$.</p> <p>8(5)(B) Proportionality.</p>	<p>The new SEs add specificity and separate proportional ($y = kx$) from non-proportional ($y = mx + b$, $b \cdot$ V L W X D W L R Q V W R V X S S R U W O H D U Q L Q J) related to foundations of linear functions and distinguishing between m/k and b.</p> <p>The contexts may now include data from real-world applications or mathematical solutions with paired values.</p> <p>Equations should include rational number coefficients and constants.</p> <p>The focus is on discussion of proportional relationships, laying the foundation for the connection to linear functions in high school with A(5)(C): Use, translate, and make connections among algebraic, tabular, graphical, or verbal descriptions of linear functions. This will continue to be an Algebra I SE until the Revised TEKS (2012) are implemented for high school.</p> <p>When the new high school TEKS are implemented, Algebra I will continue work with linear equations in two variables with A(2)(C): "Write linear equations in two variables given a table of values, a graph, and a verbal description."</p>	

Grade 8 – Mathematics

2 O G TEKS -Patterns, Relationships,
and Algebraic Thinking Strand

& X U U H Q W T ~~8(5)~~

Supporting Information

Notes

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8(5)(G) Proportionality. The student applies



Grade 8 – Mathematics

2 O G TEKS Patterns, Relationships,
and Algebraic Thinking Strand

& X U U H Q W T ~~8(9)~~

Supporting Information

Notes

8(9)(A) Expressions, equations, and
relationships. cs 1.04 0 0 1-

+

Grade 8 – Mathematics

2 O G TEKS Reasoning S	Geometry and Spatial trand	& X U U H Q W T 2012	Supporting Information	Notes
		8(10)(B) Two- dimensional s hapes. The student applies mathematical process standards to develop transformational geometry concepts.	Dilations are limited to positive, rational scale factors.	
		The student is expected to differentiate between transformations that preserve congruence and those that do not.	Students may differentiate between the transformations using multiple representations, including algebraic representations . Dilations that result in a reduction or enlargement do not preserve con gruence. A scale factor is applied to the coordinate values of the original figure and noted symbolically as (x,y) (2 x,2 y) . This is in contrast to those transformations that preserve co ngruence such as a reflection in (x,y) (-x,y)	

Grade 8 – Mathematics

2 O G TEKS -Geometry and Spatial
Reasoning Strand

& X U U H Q W T ~~2012~~

Supporting Information

Notes

8(7)(C) Geometry and spatial reasoning.

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8(8)(D)

Grade 8 – Mathematics

2013 TEKS - Measurement Strand	& 8.5.12	Supporting Information	Notes
<p>8(9)(A) Measurement. The student uses indirect measurement to solve problems. The student is expected to use the Pythagorean Theorem to solve real-life problems.</p>	<p>8(7)(C) Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to use the Pythagorean Theorem and its converse to solve problems.</p>	<p>Pair 8(7)(C) with 8(1)(A) to include real-life problems.</p> <p>Including the converse of the Pythagorean Theorem adds specificity to the SE. A real-life problem related to whether or not a right triangle exists, such as checking for a right angle when constructing intersecting walls based on lengths, would be included within the current SE.</p>	
	<p>8(7)(D) Expressions, equations, and</p>		

Grade 8 – Mathematics

2 O G TEKS Underlying Processes and Mathematical Tools Strand	& X U U H Q W TEKS	Supporting Information	Notes
<p>8(14)(A) Underlying processes and mathematical tools. The student applies Grade 8 mathematics to solve problems connected to everyday experiences, investigations in other disciplines, and activities in and outside of school. The student is expected to identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics</p>	<p>8(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</p>	<p>The focus has shifted to application. The opportunities for a pplication 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</p>	

Grade 8 – Mathematics

2015 TEKS Underlying Processes and Mathematical Tools Strand	& X U U H Q W TEKS	Supporting Information	Notes
<p>8(15)(A) Underlying processes and mathematical tools. The student communicates about Grade 8 mathematics through informal and mathematical language, representations, and models. The student is expected to communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models.</p>	<p>8(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.</p>	<p>Communication has expanded to include reasoning and the implications of mathematical ideas and reasoning.</p> <p>The list of representations is now summarized with "multiple representations" with specificity added for symbols and diagrams.</p>	
<p>8(15)(B) Underlying processes and mathematical tools. The student communicates about Grade 8 mathematics through informal and mathematical language, representations, and models. The student is expected to evaluate the effectiveness of different representations to communicate ideas.</p>	<p>8(1)(E)</p>		

Grade 8 – Mathematics

2013 TEKS	8.5A & 8.5B	Supporting Information	Notes
+	<p>8(12)(A) Personal financial literacy. The student applies mathematical process standards to develop an economic way of thinking and problem solving useful in one's life as a knowledgeable consumer and investor. The student is expected to solve real world problems comparing how interest rate and loan length affect the cost of credit.</p>		
+	<p>8(12)(B) Personal financial literacy. The student applies mathematical process standards to develop an economic way of thinking and problem solving useful in one's life as a knowledgeable consumer and investor. The student is expected to calculate the total cost of repaying a loan, including credit cards and easy access</p>	<p>16(c) H58c.g)-14(a8alcs 05(ds)TJ ET /CS2 cs 0.776 0.851 0.945 scn 237.6 388.0J ET /CS2 cs 0.776 0.858h67(t)1(6o871 csi90.0</p>	

