


Introduction to the Revised Mathematics TEKS

A VERTICAL LOOK AT KEY CONCEPTS
AND PROCEDURES
GRADE 6



The materials are copyrighted (c) and trademarked (tm) as the property of the Texas Education Agency (TEA) and may not be reproduced without the express written permission of TEA, except under the following conditions:

Texas public school districts, charter schools, and Education Service Centers may reproduce and use copies of the Materials and Related Materials for the districts' and schools' educational use without obtaining permission from TEA.

Residents of the state of Texas may reproduce and use copies of the Materials and Related Materials for individual personal use only without obtaining written permission of TEA.

Any portion reproduced must be reproduced in its entirety and remain unedited, unaltered and unchanged in any way.

No monetary charge can be made for the reproduced materials or any document containing them; however, a reasonable charge to cover only the cost of reproduction and distribution may be charged.

Private entities or persons located in Texas that are not Texas public school districts, Texas Education Service Centers, or Texas charter schools or any entity, whether public or private, educational or non-educational, located outside the state of Texas MUST obtain written approval from TEA and will be required to enter into a license agreement that may involve the payment of a licensing fee or a royalty.

For information contact:

Office of Copyrights, Trademarks, License Agreements, and Royalties,
Texas Education Agency,
1701 N. Congress Ave., Austin, TX 78701-1494;
phone: 512-463-9270 or 512-463-9437;
email: copyrights@tea.state.tx.us

©2013 Texas Education Agency All Rights Reserved 2013

Revised TEKS (2012): Building to Grade 6 Number and Operations – A Vertical Look at Key Concepts and Procedures

The strand from the Revised TEKS (2012) is found at the top of each page along with the grade level.

Grade 7	Grade 6	Grade 5	Grade 4	Grade 3	Grade 2	Grade 1
<i>Note: Comparing and ordering may be integrated into instruction related to unit rates, problems involving proportional relationships, and the personal financial literacy standards.</i>	<p>The Revised TEKS (2012) are the student expectations adopted in 2012 that are scheduled to be implemented in 2014-2015 pending funding.</p>		<p>and order numbers to 0,000.</p> <p>two with numerators and denominators.</p>	<p>Compare and order whole numbers up to 100,000.</p> <p>Compare two fractions having the same numerator or denominator.</p>	<p>Compare and order whole numbers up to 1,200.</p>	<p>Represent comparison of two numbers up to 100.</p>
	<p>Locate, compare, and order integers and rational numbers using a number line.</p>	<p><i>Note: number lines may be integrated into instruction through (1)(D), (1)(E), and (1)(G).</i></p>	<p>Name a point on a number line to tenths or hundredths.</p>	<p>Locate fractions between 0 and 1 with specified denominators on a number line.</p>	<p>Locate the position of a given whole number on an open number line.</p>	
<p>Use a visual representation of sets and subsets within the set of rational numbers.</p>	<p>Classify whole numbers, integers, and rational numbers.</p>					
<p>Use a visual representation of sets and subsets within the set of rational numbers.</p>				<p>Recall facts to multiply up to 10 by 10 with automaticity.</p>	<p>Recall basic facts to add and subtract within 20 with automaticity.</p>	
		<p>Add and subtract positive rational numbers fluently.</p>	<p>Add and subtract</p>	<p>Solve with fluency</p>		
	<p>Key concepts and procedures for the identified grade level are in the shaded column.</p>	<p>Multiply with fluency 3-digit by a 2-digit number.</p>	<p>Grade levels for the concepts and procedures are identified in column headings for each set of key concepts and procedures.</p>			
		<p>Solve with proficiency for quotients of up to a four-digit dividend by a two-digit divisor.</p>				
	<p>Multiply and divide positive rational numbers fluently.</p>					
<p>Add, subtract, multiply, and divide rational numbers fluently.</p>	<p>Add, subtract, multiply, and divide integers fluently.</p>					

The statements are summaries of student expectations that build up to each key concept and procedures. Not all student expectations for all grade levels are represented.

Revised TEKS (2012): Building to Grade 6 Proportionality – A Vertical Look at Key Concepts and Procedures

Grade 7	Grade 6	Grade 5	Grade 4	Grade 3
<p>Determine the constant of proportionality in problem situations and represent k as a rate of change using multiple representations.</p>	<p>Compare two rules using multiple representations to differentiate between $y=ax$ (multiplicative relationships) and $y=x+a$ (additive relationships).</p>	<p>Generate a numerical sequence when given a rule in the form $y=ax$ or $y=x+a$.</p> <p>Recognize the difference between additive and multiplicative numerical patterns.</p>	<p>Use an input-output table to generate a pattern that follows a given rule.</p>	<p>Represent real-world relationships using number pairs in a table and verbal descriptions.</p>
Grade 7	Grade 6			
<p>Calculate unit rates.</p>	<p>Give examples of ratios and rates, including rates as quotients.</p> <p>Represent and solve problems involving ratios and rates.</p>			
Grade 7	Grade 6	Grade 5	Grade 4	
<p>Solve problems involving ratios, rates, and percents.</p> <p>Convert between measurement systems, applying use of proportions and unit rates.</p> <p>Solve problems involving similarity.</p>	<p>Represent and solve problems with percents.</p> <p>Convert within a measurement system, applying use of proportions and unit rates.</p>	<p>Solve problems by calculating conversions within a measurement system.</p>	<p>Convert within a measurement system, applying use of equivalent measures represented in a table.</p>	

Revised TEKS (2012): Building to Grade 6 Expressions, Equations, and Relationships – A Vertical Look at Key Concepts and Procedures

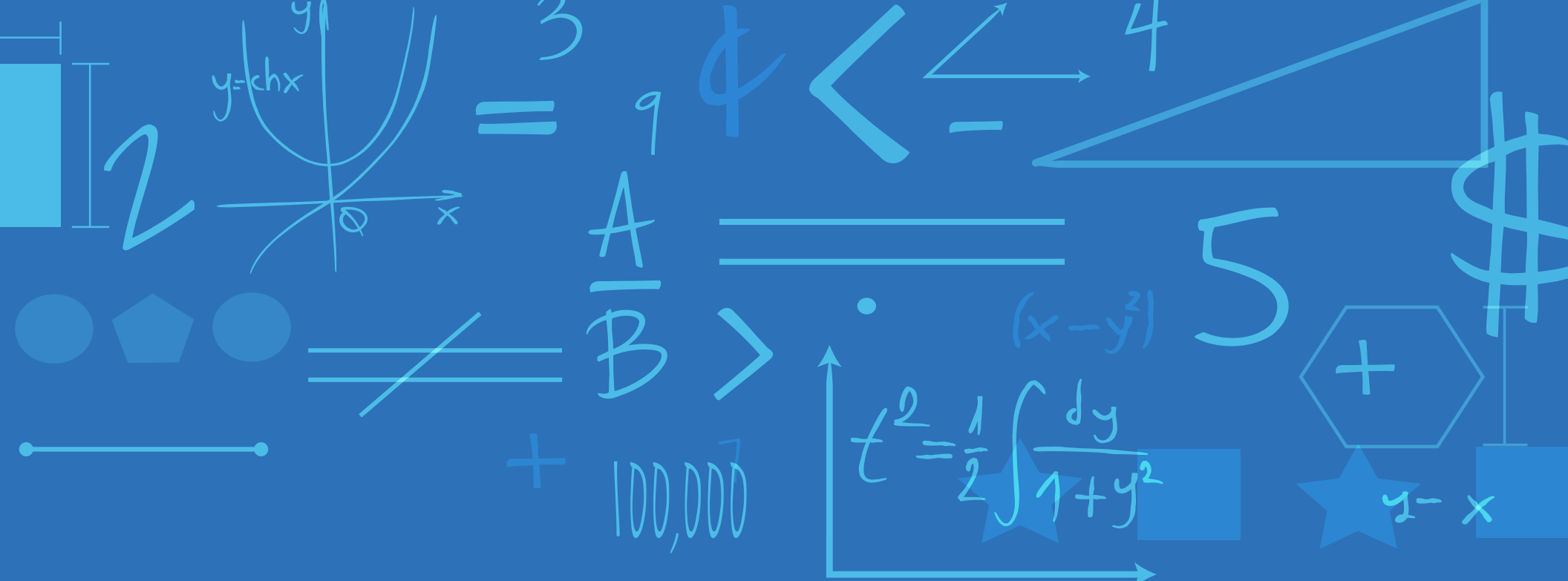
Grade 7	Grade 6	Grade 5	Grade 4	Grade 3		
<p>Represent linear relationships that simplify to $y=mx+b$.</p>	<p>Represent linear relationships in the form of $y=kx$ or $y=x+b$ using multiple representations.</p> <p>Write an equation that represents the relationship between independent and dependent quantities.</p>	<p>Graph a relationship given in the form $y=ax$ or $y=x+a$.</p>	<p>Represent problems using an input-output table.</p>	<p>Describe a multiplication expression as a comparison.</p> <p>Represent relationships with number pairs in a table.</p>		
	<p style="text-align: center;">Grade 6</p> <p>Generate equivalent expressions using order of operations and properties of operations.</p>	<p style="text-align: center;">Grade 5</p> <p>Generate equivalent expressions without exponents.</p>				
Grade 7	Grade 6	Grade 5	Grade 4	Grade 3	Grade 2	Grade 1
<p>Model, write, and solve one-variable, two-step equations and inequalities.</p>	<p>Model, write, and solve one-variable, one-step equations and inequalities.</p>	<p>Represent multi-step problems with letters standing for unknown quantities.</p>	<p>Represent multi-step problems with letters standing for unknown quantities.</p>	<p>Represent and solve one-and two-step problems with equations.</p>	<p>Represent and solve addition and subtraction problems where unknowns may be any one of the terms in a problem.</p>	<p>Determine the unknown whole number in and addition or subtraction equation when the unknown may be any one of the three or four terms in the equation.</p>
Grade 7	Grade 6	Grade 5	Grade 4			
<p>Represent solutions for one-variable, two-step equations and inequalities on a number line.</p>	<p>Represent solutions for one-variable, one-step equations and inequalities on a number line.</p> <p>See the Number and Operations strand for connections to the number line.</p>	<p><i>Note: number lines may be integrated into instruction through (1)(D), (1)(E), and (1)(G).</i></p>	<p>See the Number and Operations strand for connections to the number line.</p>			

Revised TEKS (2012): Building to Grade 6 Expressions, Equations, and Relationships – A Vertical Look at Key Concepts and Procedures

Grade 7	Grade 6	Grade 5	Grade 4	Grade 3
<p>Model the relationship between attributes and formulas for volume of prisms and pyramids.</p> <p>Solve problems with volume of prisms and pyramids</p>	<p>Solve problems with volume of rectangular prisms</p>	<p>Determine the volume of a rectangular prism by connecting the number of layers to the number of unit cubes in the area of the base.</p> <p>Solve problems with volume (rectangular prism and cube), including the formula $V = Bh$</p>		
<p>Model the relationship between attributes and formulas of circles.</p> <p>Determine the area of circles and composite figures.</p>	<p>Model area formulas for parallelograms, trapezoids, and triangles by decomposing and rearranging parts of these shapes.</p> <p>Solve problems with area of rectangles, parallelograms, trapezoids, and triangles</p>	<p>Model the relationship between side lengths and the volume of a rectangular prism.</p> <p>Solve problems related to perimeter and/or area</p>	<p>Model the relationship between side lengths and perimeter of rectangles.</p> <p>Solve problems related to perimeter and area of rectangles</p>	<p>Determine the area of a rectangle by connecting the number of rows to the number of unit squares in each row.</p>
<p>Write and solve equations using geometry concepts, including the sum of angles in a triangle and angle relationships.</p>	<p>Identify the sum of angles in a triangle, relationship between the lengths of sides and angle measures in a triangle, and whether or not a triangle is formed by three lengths</p>	<p>See the Geometry and Measurement strand for connections to attributes and properties of 2-d figures.</p>	<p>See the Geometry and Measurement strand for connections to angles and measuring angles.</p>	


Revised TEKS (2012): Building to Grade 6 Measurement and Data – A Vertical Look at Key Concepts and Procedures

Grade 7	Grade 6	Grade 5	Grade 4	Grade 3	Grade 2	Grade 1
<p><i>Represent and draw conclusions with:</i></p> <p>Comparative dot plots</p> <p>Comparative box plots</p> <p><i>Graphing on a coordinate plane is applied in the Expressions, Equations, and Relationships and Proportionality strands.</i></p>	<p><i>Represent and draw conclusions with:</i></p> <p>Dot plots</p> <p>Stem and Leaf Plots</p> <p>Histograms</p> <p>Box plots</p> <p>Graph ordered pairs of rational numbers in all four quadrants.</p>	<p><i>Represent and solve problems with:</i></p> <p>Frequency Tables</p> <p>Bar graphs</p> <p>Dot plots</p> <p>Stem and Leaf Plots</p> <p>Scatterplots</p>	<p><i>Represent and solve problems with:</i></p> <p>Frequency Tables</p> <p>Dot plots</p> <p>Stem and Leaf Plots</p>	<p><i>Represent and solve problems with:</i></p> <p>Frequency Tables</p> <p>Bar graphs</p> <p>Dot plots</p>	<p><i>Represent and solve problems with:</i></p> <p>Bar graphs</p>	<p><i>Represent and draw conclusions with:</i></p> <p>Bar graphs</p>
Grade 7	Grade 6					
<p>Compare two sets of data with shape, center, and spread</p>	<p>Describe the center, spread, and shape of a set of data</p> <p>Determine mean, median, range, IQR, and mode</p> <p>Distinguish between situations that yield data with variability and without variability</p>					



Introduction to the Revised Mathematics TEKS

A VERTICAL LOOK AT KEY CONCEPTS
AND PROCEDURES
GRADE 7



The materials are copyrighted (c) and trademarked (tm) as the property of the Texas Education Agency (TEA) and may not be reproduced without the express written permission of TEA, except under the following conditions:

Texas public school districts, charter schools, and Education Service Centers may reproduce and use copies of the Materials and Related Materials for the districts' and schools' educational use without obtaining permission from TEA.

Residents of the state of Texas may reproduce and use copies of the Materials and Related Materials for individual personal use only without obtaining written permission of TEA.

Any portion reproduced must be reproduced in its entirety and remain unedited, unaltered and unchanged in any way.

No monetary charge can be made for the reproduced materials or any document containing them; however, a reasonable charge to cover only the cost of reproduction and distribution may be charged.

Private entities or persons located in Texas that are not Texas public school districts, Texas Education Service Centers, or Texas charter schools or any entity, whether public or private, educational or non-educational, located outside the state of Texas MUST obtain written approval from TEA and will be required to enter into a license agreement that may involve the payment of a licensing fee or a royalty.

For information contact:

Office of Copyrights, Trademarks, License Agreements, and Royalties,
Texas Education Agency,
1701 N. Congress Ave., Austin, TX 78701-1494;
phone: 512-463-9270 or 512-463-9437;
email: copyrights@tea.state.tx.us

©2013 Texas Education Agency All Rights Reserved 2013

Revised TEKS (2012): Building to Grade 7 Number and Operations – A Vertical Look at Key Concepts and Procedures

Grade 8	Grade 7	Grade 6	Grade 5	Grade 4	Grade 3	Grade 2	Grade 1	Kindergarten
Order a set of real numbers.	<i>Note: Comparing and ordering may</i>	Order a set of rational	Compare and order two decimals to sandths.	Compare and order whole numbers to 1,000,000,000. Compare two fractions with different numerators and different denominators.	Compare and order whole numbers up to 100,000. Compare two fractions with the same numerator or denominator	Compare and order whole numbers up to 1,200.	Represent the comparisons of two numbers to 100.	Compare sets of objects up to 20.
Use a visual representation of sets and subsets: reals.	Use a visual representation of sets and subsets: rationals.	Classify whole numbers, integers, and rational numbers.						
					Recall facts to multiply up to 10 by 10 with automaticity.	Recall basic facts to add and subtract within 20 with automaticity		
					Solve with fluency problems with addition and subtraction within 1,000.			
			dividend by a two-digit divisor	1-digit and 2-digit by 2-digit)	Multiply a 2-digit by a 1-digit number.			
		Multiply and divide positive rational numbers fluently.	Add and subtract positive rational numbers fluently.					
	Add, subtract, multiply, and divide rational numbers fluently.	Add, subtract, multiply, and divide integers fluently.						

The Revised TEKS (2012) are the student expectations adopted in 2012 that are scheduled to be implemented in 2014-2015 pending funding.

The strand from the Revised TEKS (2012) is found at the top of each page along with the grade level.

Key concepts and procedures for the identified grade level are in the shaded column.

Grade levels for the concepts and procedures are identified in column headings for each set of key concepts and procedures.

The statements are summaries of student expectations that build up to each key concept and procedures. Not all student expectations for all grade levels are represented.

Revised TEKS (2012): Building to Grade 7 Number and Operations – A Vertical Look at Key Concepts and Procedures

Grade 8	Grade 7	Grade 6	Grade 5	Grade 4	Grade 3	Grade 2	Grade 1	Kindergarten
Order a set of real numbers.	<i>Note: Comparing and ordering may be integrated into instruction related to unit rates, problems involving proportional relationships, and the personal financial literacy standards.</i>	Order a set of rational numbers.	Compare and order two decimals to thousandths.	Compare and order whole numbers to 1,000,000,000. Compare two fractions with different numerators and different denominators.	Compare and order whole numbers up to 100,000. Compare two fractions having the same numerator or denominator.	Compare and order whole numbers up to 1,200.	Represent the comparisons of two numbers to 100.	Compare sets of objects up to 20.
Grade 8	Grade 7	Grade 6						
Use a visual representation of sets and subsets within the set of real numbers.	Use a visual representation of sets and subsets within the set of rational numbers.	Classify whole numbers, integers, and rational numbers.						
Grade 8	Grade 7	Grade 6	Grade 5	Grade 4	Grade 3	Grade 2		
					Recall facts to multiply up to 10 by 10 with automaticity. Solve with fluency problems with addition and subtraction within 1,000. Multiply a 2-digit by a 1-digit number.	Recall basic facts to add and subtract within 20 with automaticity		
			Multiply with fluency a 3-digit by a 2-digit number Solve with proficiency for quotients of up to a four-digit dividend by a two-digit divisor	Add and subtract whole numbers and decimals to hundredths. Solve with fluency problems with multiplication and division (4-digit by 1-digit and 2-digit by 2-digit)				
		Multiply and divide positive rational numbers fluently.	Add and subtract positive rational numbers fluently.					
	Add, subtract, multiply, and divide rational numbers fluently.	Add, subtract, multiply, and divide integers fluently.						

Revised TEKS (2012): Building to Grade 7 Proportionality – A Vertical Look at Key Concepts and Procedures

Grade 8	Grade 7	Grade 6	Grade 5	Grade 4	Grade 3
Represent linear proportional situations with tables, graphs, and $y=kx$.	Determine the constant of proportionality in problem situations and represent k as a rate of change using multiple representations.	Compare two rules using multiple representations to differentiate between $y=ax$ (multiplicative relationships) and $y=x+a$ (additive relationships).	Generate a numerical sequence when given a rule in the form $y=ax$ or $y=x+a$. Recognize the difference between additive and multiplicative numerical patterns.	Use an input-output table to generate a pattern that follows a given rule.	Represent real-world relationships using number pairs in a table and verbal descriptions.
Grade 8	Grade 7	Grade 6			
Graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship.	Calculate unit rates.	Give examples of rates, including rates as quotients. Divide positive rational numbers fluently.			
Grade 8	Grade 7	Grade 6	Grade 5	Grade 4	
Solve problems involving direct variation.	Solve problems involving ratios, rates, and percents. Convert between measurement systems, applying use of proportions and unit rates.	Solve problems with percents. Convert within a measurement system, applying use of proportions and unit rates.	Solve problems by calculating conversions within a measurement system.	Convert within a measurement system, applying use of equivalent measures represented in a table.	
Grade 8	Grade 7				
Compare and contrast attributes of dilations on a coordinate plane. Use similar right triangles to develop an understanding of slope as a rate of change for any two points on the same line.	Generalize critical attributes of similarity. Solve problems with similarity and scale drawings.				

Revised TEKS (2012): Building to Grade 7 Proportionality – A Vertical Look at Key Concepts and Procedures

Grade 7	Grade 6	Grade 5	Grade 4	Grade 3	Grade 2	Grade 1
<p>Make predictions and determine solutions using experimental and theoretical probability for simple and compound events.</p>						
<p><i>Solve problems using data:</i></p> <p>Bar graphs Dot plots Circle graphs</p>	<p>See Measurement and Data strand for connections to data representations.</p>	<p>See Data Analysis strand for connections to data representations.</p>	<p>See Data Analysis strand for connections to data representations.</p>	<p>See Data Analysis strand for connections to data representations.</p>	<p>See Data Analysis strand for connections to data representations.</p>	<p>See Data Analysis strand for connections to data representations.</p>

Revised TEKS (2012): Building to Grade 7 Expressions, Equations, and Relationships – A Vertical Look at Key Concepts and Procedures

Grade 8	Grade 7	Grade 6	Grade 5	Grade 4	Grade 3
See Proportionality Strand for connections to representing proportional and non-proportional situations and identifying functions using multiple representations.	Represent linear relationships that simplify to $y=mx+b$.	<p>Represent linear relationship in the form of $y=kx$ or $y=x+b$.</p> <p>Write an equation that represents the relationship between independent and dependent quantities.</p>	Graph a relationship given in the form $y=ax$ or $y=x+a$.	Represent problems using an input-output table.	<p>Describe a multiplication expression as a comparison.</p> <p>Represent relationships with number pairs in a table.</p>
<p>Model the relationship between attributes and formulas for volume of cylinders and cones.</p> <p>Solve problems with volume of cylinders, cone, and spheres.</p>	<p>Model the relationship between attributes and formulas for volume of prisms and pyramids.</p> <p>Solve problems with volume of prisms and pyramids.</p>	<p>Solve problems with volume of rectangular prisms.</p>	<p>Determine the volume of a rectangular prism by connecting the number of layers to the number of unit cubes in the area of the base.</p> <p>Solve problems with volume (rectangular prism and cube), including the formula $V=Bh$.</p>		
<p>Solve problems with lateral and total surface area of prisms, pyramids, and cylinders.</p> <p>See Two-Dimensional Shapes strand for connections to effects of dilations on linear and area measures.</p>	<p>Model the relationship between attributes and formulas of circles.</p> <p>Determine the area of circles and composite figures.</p> <p>Solve problems involving lateral and total surface area of prisms and pyramids using the shape's net.</p>	<p>Model area formulas for parallelograms, trapezoids, and triangles by decomposing and rearranging parts of these shapes.</p> <p>Solve problems with area of rectangles, parallelograms, trapezoids, and triangles.</p>	<p>Model the relationship between side lengths and the volume of a rectangular prism.</p> <p>Solve problems related to perimeter and/or area.</p>	<p>Model the relationship between side lengths and perimeter of rectangles.</p> <p>Solve problems related to perimeter and area of rectangles.</p>	<p>Determine the area of a rectangle by connecting the number of rows to the number of unit squares in each row.</p>

Revised TEKS (2012): Building to Grade 7 Expressions, Equations, and Relationships – A Vertical Look at Key Concepts and Procedures

Grade 8	Grade 7	Grade 6	Grade 5	Grade 4	Grade 3	Grade 2	Grade 1
<p>Solve one-variable equations with variables on both sides of the equal sign using rational number coefficients and constants.</p> <p>Verify the values of x and y that simultaneously satisfy two linear equations in the form $y=mx+b$ from a graph.</p>	<p>Solve one-variable, two-step equations and inequalities.</p>	<p>Solve one-variable, one-step equations and inequalities.</p>	<p>Represent multi-step problems with letters standing for unknown quantities.</p>	<p>Represent multi-step problems with letters standing for unknown quantities.</p>	<p>Represent and solve one-and two-step problems with equations.</p>	<p>Represent and solve addition and subtraction problems where unknowns may be any one of the terms in a problem.</p>	<p>Determine the unknown whole number in and addition or subtraction equation when the unknown may be any one of the three or four terms in the equation.</p>
<p>Grade 8</p> <p>See Number and Operations Strand for connections to the number line.</p>	<p>Grade 7</p> <p>Represent solutions for one-variable, two-step equations and inequalities on a number line.</p>	<p>Grade 6</p> <p>See Number and Operations Strand for connections to the number line.</p> <p>Represent solutions for one-variable, one-step equations and inequalities on a number line.</p>	<p>Grade 5</p> <p><i>Note: number lines may be integrated into instruction through (1)(D), (1)(E), and (1)(G).</i></p>	<p>Grade 4</p> <p>See Number and Operations Strand for connections to the number line.</p>			
<p>Grade 8</p> <p>Use informal arguments to explain specific angle relationships with triangles and those created by transversals and parallel lines.</p>	<p>Grade 7</p> <p>Write and solve equations using geometry concepts, including the sum of angles in a triangle and angle relationships.</p>	<p>Grade 6</p> <p>Identify the sum of angles in a triangle, relationship between the lengths of sides and angle measures in a triangle, and whether or not a triangle is formed by three lengths.</p>	<p>Grade 5</p> <p>See the Geometry and Measurement strand for connections to attributes and properties of 2-d figures.</p>	<p>Grade 4</p> <p>See the Geometry and Measurement strand for connections to angles and measuring angles.</p>			

Revised TEKS (2012): Building to Grade 7 Measurement and Data – A Vertical Look at Key Concepts and Procedures

Grade 8	Grade 7	Grade 6	Grade 5	Grade 4	Grade 3
<p><i>Represent and draw conclusions with:</i></p> <p>Scatterplots</p> <p>Graphing on a coordinate plane is applied in the Expressions, Equations, and Relationships and Proportionality strands.</p>	<p><i>Represent and draw conclusions with:</i></p> <p>Comparative dot plots</p> <p>Comparative box plots</p> <p>Graphing on a coordinate plane is applied in the Expressions, Equations, and Relationships and Proportionality strands.</p>	<p><i>Represent and draw conclusions with:</i></p> <p>Dot plots</p> <p>Box plots</p> <p>Graph ordered pairs of rational numbers in all four quadrants.</p>	<p><i>Represent and solve problems with:</i></p> <p>Dot plots</p> <p>Scatterplots</p>	<p><i>Represent and solve problems with:</i></p> <p>Dot plots</p>	<p><i>Represent and solve problems with:</i></p> <p>Dot plots</p>
Grade 8	Grade 7	Grade 6			
<p>Determine mean absolute deviation.</p>	<p>Compare two sets of data with shape, center, and spread.</p>	<p>Describe the center, spread, and shape of a set of data.</p> <p>Determine mean, median, range, IQR, and mode.</p> <p>Distinguish between situations that yield data with variability and without variability.</p>			
Grade 8	Grade 7				
<p>Simulate generating random samples to develop the notion of a random sample being representative of the population.</p>	<p>Draw inferences about a population and compare two populations based on random sampling.</p>				



Introduction to the Revised Mathematics TEKS

A VERTICAL LOOK AT KEY CONCEPTS
AND PROCEDURES
GRADE 8



The materials are copyrighted (c) and trademarked (tm) as the property of the Texas Education Agency (TEA) and may not be reproduced without the express written permission of TEA, except under the following conditions:

Texas public school districts, charter schools, and Education Service Centers may reproduce and use copies of the Materials and Related Materials for the districts' and schools' educational use without obtaining permission from TEA.

Residents of the state of Texas may reproduce and use copies of the Materials and Related Materials for individual personal use only without obtaining written permission of TEA.

Any portion reproduced must be reproduced in its entirety and remain unedited, unaltered and unchanged in any way.

No monetary charge can be made for the reproduced materials or any document containing them; however, a reasonable charge to cover only the cost of reproduction and distribution may be charged.

Private entities or persons located in Texas that are not Texas public school districts, Texas Education Service Centers, or Texas charter schools or any entity, whether public or private, educational or non-educational, located outside the state of Texas MUST obtain written approval from TEA and will be required to enter into a license agreement that may involve the payment of a licensing fee or a royalty.

For information contact:

Office of Copyrights, Trademarks, License Agreements, and Royalties,
Texas Education Agency,
1701 N. Congress Ave., Austin, TX 78701-1494;
phone: 512-463-9270 or 512-463-9437;
email: copyrights@tea.state.tx.us.

©2013 Texas Education Agency All Rights Reserved 2013

Revised TEKS (2012): Building to Grade 8 Number and Operations – A Vertical Look at Key Concepts and Procedures

Grade 8	Grade 7	Grade 6	Grade 5	Grade 4	Grade 3	Grade 2	Grade 1	Kindergarten
Order a set of real numbers.		Order a set of rational numbers.	Compare and order two decimals to thousandths.	Compare and order whole numbers to 1,000,000,000.	Compare and order whole numbers up to 100,000.	Compare and order whole numbers up to 1,200.		
Use a visual representation of sets and subsets within the set of real numbers.	Use a visual representation of sets and subsets within the set of rational numbers.	Order, compare, and order integers, and rational numbers.			Compare two fractions having the same numerator or denominator.			
Locate rational number approximations of irrational numbers on a number line.	<i>Note: number lines may be integrated into instruction through (1)(D), (1)(E), and (1)(G).</i>	Locate, compare, and order integers and rational numbers using a number line.	<i>Note: number lines may be integrated into instruction through (1)(D), (1)(E), and (1)(G).</i>	Name a point on a number line to tenths or hundredths.	Locate fractions between 0 and 1 with specified denominators on a number line.	Locate the position of a given whole number on an open number line.	Order whole numbers up to 120 using open number lines.	
Convert between standard decimal notation and scientific notation.			Use exponential notation to represent the value of the number.					
					Recall facts to multiply up to 10 by 10 with automaticity. Solve with fluency problems with addition and subtraction within 1,000.	Recall basic facts to add and subtract within 20 with automaticity.		
			Multiply with fluency a 3-digit by a 2-digit number	Add and subtract whole numbers and decimals to hundredths.				
			Solve with proficiency for quotients of up to a four-digit dividend by a two-digit divisor	Solve with fluency problems with multiplication and division (4-digit by 1-digit and 2-digit by 2-digit)	Multiply a 2-digit by a 1-digit number.			
		Multiply and divide positive rational numbers fluently.	Add and subtract positive rational numbers fluently.					
	Add, subtract, multiply, and divide rational numbers fluently.	Add, subtract, multiply, and divide integers fluently.						

The Revised TEKS (2012) are the student expectations adopted in 2012 that are scheduled to be implemented in 2014-2015 pending funding.

The strand from the Revised TEKS (2012) is found at the top of each page along with the grade level.

Grade levels for the concepts and procedures are identified in column headings for each set of key concepts and procedures.

Key concepts and procedures for the identified grade level are in the shaded column.

The statements are summaries of student expectations that build up to each key concept and procedures. Not all student expectations for all grade levels are represented.

Revised TEKS (2012): Building to Grade 8 Number and Operations – A Vertical Look at Key Concepts and Procedures

Grade 8	Grade 7	Grade 6	Grade 5	Grade 4	Grade 3	Grade 2	Grade 1	Kindergarten
Order a set of real numbers.		Order a set of rational numbers.	Compare and order two decimals to thousandths.	Compare and order whole numbers to 1,000,000,000. Compare two fractions with different numerators and different denominators.	Compare and order whole numbers up to 100,000. Compare two fractions having the same numerator or denominator.	Compare and order whole numbers up to 1,200.	Represent the comparisons of two numbers to 100.	Compare sets of objects up to 20.
Grade 8	Grade 7	Grade 6						
Use a visual representation of sets and subsets within the set of real numbers.	Use a visual representation of sets and subsets within the set of rational numbers.	Classify whole numbers, integers, and rational numbers.						
Grade 8	Grade 7	Grade 6	Grade 5	Grade 4	Grade 3	Grade 2	Grade 1	
Locate rational number approximations of irrational numbers on a number line. Convert between standard decimal notation and scientific notation.	<i>Note: number lines may be integrated into instruction through (1)(D), (1)(E), and (1)(G).</i>	Locate, compare, and order integers and rational numbers using a number line.	<i>Note: number lines may be integrated into instruction through (1)(D), (1)(E), and (1)(G).</i> Use expanded notation for decimals through the thousandths.	Name a point on a number line to tenths or hundredths. Use expanded notation for whole numbers through 1,000,000,000 and decimals to the hundredths.	Locate fractions between 0 and 1 with specified denominators on a number line. Use expanded notation as appropriate for numbers up to 100,000.	Locate the position of a given whole number on an open number line.	Order whole numbers up to 120 using open number lines.	
Grade 8	Grade 7	Grade 6	Grade 5	Grade 4	Grade 3	Grade 2		
			Multiply with fluency a 3-digit by a 2-digit number Solve with proficiency for quotients of up to a four-digit dividend by a two-digit divisor	Add and subtract whole numbers and decimals to hundredths. Solve with fluency problems with multiplication and division (4-digit by 1-digit and 2-digit by 2-digit)	Recall facts to multiply up to 10 by 10 with automaticity. Solve with fluency problems with addition and subtraction within 1,000. Multiply a 2-digit by a 1-digit number.	Recall basic facts to add and subtract within 20 with automaticity		
	Add, subtract, multiply, and divide rational numbers fluently.	Multiply and divide positive rational numbers fluently. Add, subtract, multiply, and divide integers fluently.	Add and subtract positive rational numbers fluently.					

Revised TEKS (2012): Building to Grade 8 Proportionality – A Vertical Look at Key Concepts and Procedures

Grade 8 Compare and contrast attributes of dilations on a coordinate plane.	Grade 7 Generalize critical attributes of similarity.				
Grade 8 Graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship.	Grade 7 Calculate unit rates.				
Grade 8 Solve problems involving direct variation.	Grade 7 Solve problems involving ratios, rates, and percents. Solve problems with similarity.	Grade 6 Solve problems with percents. Solve prediction and comparison problems, including contexts with probability and statistics.	Grade 5 Solve problems by calculating conversions within a measurement system.		
Grade 8 Represent proportional and non-proportional situations. Identify functions using multiple representations.	Grade 7 See Expressions, Equations, and Relationships strand for connections to representing linear relationships that simplify to $y=mx+b$.	Grade 6 See Expressions, Equations, and Relationships strand for connections to representing linear relationship in the form of $y=kx$ or $y=x+b$ and writing an equation that represents the relationship between independent and dependent quantities.	Grade 5 See Expressions, Equations, and Relationships strand for connections to graphing a relationship given in the form $y=ax$ or $y=x+a$.	Grade 4 See Expressions, Equations, and Relationships strand for connections to representing problems using an input-output table.	Grade 3 See Expressions, Equations, and Relationships strand for connections to describing a multiplication expression as a comparison and representing relationships with number pairs in a table.

Revised TEKS (2012): Building to Grade 8 Expressions, Equations, and Relationships – A Vertical Look at Key Concepts and Procedures

Grade 8	Grade 7	Grade 6	Grade 5	
<p>Model the relationship between attributes and formulas for volume of cylinders and cones.</p> <p>Solve problems with volume of cylinders, cone, and spheres.</p>	<p>Solve problems with volume of prisms and pyramids.</p>	<p>Solve problems with volume of rectangular prisms.</p>	<p>Determine volume of a rectangular prism with layering of unit cubes.</p> <p>Solve problems with volume (rectangular prism and cube), including the formula $V=Bh$.</p>	
Grade 8	Grade 7	Grade 6	Grade 5	Grade 4
<p>Solve problems with lateral and total surface area of prisms, pyramids, and cylinders.</p>	<p>Determine the area of circles and composite figures.</p> <p>Solve problems involving lateral and total surface area of prisms and pyramids using the shape's net.</p>	<p>Solve problems with area of rectangles, parallelograms, trapezoids, and triangles.</p>	<p>Solve problems related to perimeter and/or area.</p>	<p>Solve problems related to perimeter and area of rectangles.</p>
Grade 8	Grade 7	Grade 6	Grade 5	Grade 4
<p>Explain the Pythagorean Theorem with models and diagrams.</p> <p>Use the Pythagorean theorem and its converse to solve problems.</p> <p>Determine the distance between two points on a coordinate plane using the Pythagorean Theorem.</p>				<p>Identify acute, right, and obtuse triangles.</p>

Revised TEKS (2012): Building to Grade 8 Expressions, Equations, and Relationships – A Vertical Look at Key Concepts and Procedures

Grade 8	Grade 7	Grade 6	Grade 5	Grade 4	Grade 3	Grade 2	Grade 1
<p>Solve one-variable equations with variables on both sides of the equal sign using rational number coefficients and constants.</p> <p>Verify the values of x and y that simultaneously satisfy two linear equations in the form $y=mx+b$ from a graph.</p>	<p>Solve one-variable, two-step equations and inequalities.</p> <p>Represent solutions for one-variable, two-step equations and inequalities on a number line.</p>	<p>Solve one-variable, one-step equations and inequalities.</p> <p>Represent solutions for one-variable, one-step equations and inequalities on a number line.</p>	<p>Represent multi-step problems with letters standing for unknown quantities.</p>	<p>Represent multi-step problems with letters standing for unknown quantities.</p>	<p>Represent and solve one-and two-step problems with equations.</p>	<p>Represent and solve addition and subtraction problems where unknowns may be any one of the terms in a problem.</p>	<p>Determine the unknown whole number in and addition or subtraction equation when the unknown may be any one of the three or four terms in the equation.</p>
Grade 8	Grade 7	Grade 6	Grade 5	Grade 4			
<p>Use informal arguments to explain specific angle relationships with triangles and those created by transversals and parallel lines.</p>	<p>Write and solve equations using geometry concepts, including the sum of angles in a triangle and angle relationships.</p>	<p>Identify the sum of angles in a triangle, relationship between the lengths of sides and angle measures in a triangle, and whether or not a triangle is formed by three lengths.</p>	<p>See the Geometry and Measurement strand for connections to attributes and properties of 2-d figures.</p>	<p>See the Geometry and Measurement strand for connections to angles and measuring angles.</p>			

Revised TEKS (2012): Building to Grade 8 Two-Dimensional Shapes – A Vertical Look at Key Concepts and Procedures

Grade 8	Grade 7	Grade 6	Grade 5	Grade 4
<p>Represent translations, reflections, rotations, and dilations on a coordinate plane algebraically.</p> <p>Generalize properties of orientation and congruence for translations, reflections, rotations, and dilations.</p> <p>Model effect of dilations on linear and area measures.</p>	<p>Determine the area of circles and composite figures, including nets.</p>	<p>Solve problems with area of rectangles, parallelograms, trapezoids, and triangles.</p>	<p>Solve problems related to perimeter and/or area.</p>	<p>Solve problems related to perimeter and area of rectangles.</p>

Revised TEKS (2012): Building to Grade 8 Measurement and Data – A Vertical Look at Key Concepts and Procedures

Grade 8	Grade 7	Grade 6	Grade 5
<p><i>Represent and draw conclusions related to association between bivariate data with:</i></p> <p>Scatterplots</p>	<p><i>Represent and draw conclusions with:</i></p> <p><i>Note: The use of scatterplots is implied through the graphing of data on the coordinate plane.</i></p>	<p><i>Represent and draw conclusions with:</i></p> <p><i>Note: The use of scatterplots is implied through the graphing of data on the coordinate plane.</i></p>	<p><i>Represent and solve problems with:</i></p> <p>Scatterplots</p>
<p>Grade 8</p> <p>Determine mean absolute deviation.</p>	<p>Grade 7</p> <p>Compare two sets of data with shape, center, and spread.</p>	<p>Grade 6</p> <p>Describe the center, spread, and shape of a set of data.</p> <p>Determine mean, median, range, IQR, and mode.</p> <p>Distinguish between situations that yield data with variability and without variability.</p>	
<p>Grade 8</p> <p>Simulate generating random samples to develop the notion of a random sample being representative of the population.</p>	<p>Grade 7</p> <p>Draw inferences about a population and compare two populations based on random sampling.</p>		