



2016-2017  
Texas Learning Pathways



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# Grade 3

## Texas Learning Pathway

# Grade 3 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Number and Operations in Base Ten	Visualizing Whole Numbers	n/a	In this introductory lesson, students will: <ul style="list-style-type: none"> <li>Review valuable content.</li> <li>Explore TTM features.</li> <li>Prepare for success on grade-level material.</li> </ul>
	Visualizing Place Value	n/a	In this introductory lesson, students will: <ul style="list-style-type: none"> <li>Review valuable content.</li> <li>Explore TTM features.</li> <li>Prepare for success on grade-level material.</li> </ul>
Operations and Algebraic Thinking	Visualizing Addition	n/a	In this introductory lesson, students will: <ul style="list-style-type: none"> <li>Review valuable content.</li> <li>Explore TTM features.</li> <li>Prepare for success on grade-level material.</li> </ul>
	Visualizing Subtraction	n/a	In this introductory lesson, students will: <ul style="list-style-type: none"> <li>Review valuable content.</li> <li>Explore TTM features.</li> <li>Prepare for success on grade-level material.</li> </ul>
	Structuring Within 5 and Composing 10	n/a	In this lesson, students will: <ul style="list-style-type: none"> <li>Practice a variety of methods that reflect those of mathematically fluent thinkers.</li> <li>Prepare for success on grade-level material.</li> </ul>
	Structuring within 10	n/a	In this lesson, students will: <ul style="list-style-type: none"> <li>Practice a variety of methods that reflect those of mathematically fluent thinkers.</li> <li>Prepare for success on grade-level material.</li> </ul>
	Structuring within 20	n/a	In this lesson, students will: <ul style="list-style-type: none"> <li>Practice a variety of methods that reflect those of mathematically fluent thinkers.</li> <li>Prepare for success on grade-level material.</li> </ul>
	Structuring within 100	n/a	In this lesson, students will: <ul style="list-style-type: none"> <li>Practice a variety of methods that reflect those of mathematically fluent thinkers.</li> <li>Prepare for success on grade-level material.</li> </ul>
Number and Operations in Base Ten	Structuring within 1,000	n/a	In this lesson, students will: <ul style="list-style-type: none"> <li>Practice a variety of methods that reflect those of mathematically fluent thinkers.</li> <li>Prepare for success on grade-level material.</li> </ul>
Operations and Algebraic Thinking	Equal Groups II	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

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Unit	Lesson Name	Standard Code	Standard Description
Number and Operations in Base Ten	Place Value with Whole Numbers I	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 up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate
		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
	Place Value with Whole Numbers II	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 up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate
	Comparing Whole Numbers	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 $=$ "
	Using Place Value Concepts to Compare Whole Numbers	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
		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 $=$
	Understanding Place Value Relationships	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

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Unit	Lesson Name	Standard Code	Standard Description
Operations and Algebraic Thinking	Concept of Multiplication - Grouping	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
		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
		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"
Concept of Multiplication - Word Problems		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
		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
		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
		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
		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 $3 \times 24$ represents 3 times as much as 24

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Unit	Lesson Name	Standard Code	Standard Description
Operations and Algebraic Thinking	Concept of Multiplication - Arrays	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
		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
		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
Mixed Review Lessons	STAAR Grade 3: Review 1	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 up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate
		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 $=$
		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
		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

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Unit	Lesson Name	Standard Code	Standard Description
Operations and Algebraic Thinking	Concept of Division	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
		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
		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
	Interpreting Division Problems	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
	Constructing Division Problems	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
	Relationship Between Multiplication and Division	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
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	



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Unit	Lesson Name	Standard Code	Standard Description
Operations and Algebraic Thinking	Multiplication and Division Fact Families	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
		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
		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
	Odd or Even	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
	Solving Multiplication and Division Equations	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
		4.4.C	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to: represent the product of 2 two-digit numbers using arrays, area models, or equations, including perfect squares through 15 by 15
		4.4.E	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to: represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays, area models, or equations
	Division as an Unknown-Factor Problem	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
		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

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Unit	Lesson Name	Standard Code	Standard Description
Number and Operations in Base Ten	Multiplying by Multiples of Ten	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
		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
		4.4.B	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to: determine products of a number and 10 or 100 using properties of operations and place value understandings
Operations and Algebraic Thinking	Multiplication as a Comparison - Equations	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 $3 \times 24$ represents 3 times as much as 24
	Multiplication as a Comparison - Word Problems	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 $3 \times 24$ represents 3 times as much as 24
Number and Operations in Base Ten	Reasoning About Place Value and Rounding	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
		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 $=$
	Rounding to the Nearest Ten and Hundred	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

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Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade 3: Review 2	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 up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate
		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 $=$
		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
		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
		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
		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
Operations and Algebraic Thinking	Estimating Sums and Differences - Application	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
		4.4.G	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to: round to the nearest 10, 100, or 1,000 or use compatible numbers to estimate solutions involving whole numbers

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Unit	Lesson Name	Standard Code	Standard Description
Number and Operations in Base Ten	Reasoning About Addition and Subtraction Within 1,000	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
		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
Number and Operations- Fractions	Understanding Fractions - Equal Areas	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
		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 $1/b$
		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
	Understanding Fractions - Notation	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
		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

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Unit	Lesson Name	Standard Code	Standard Description
Number and Operations- Fractions	Unit Fractions on the Number Line	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
		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
		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 $\frac{1}{b}$ 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
		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
Fractions on the Number Line		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
		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
		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 $\frac{1}{b}$ 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
Modeling Equivalent Fractions with Number Lines		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
		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

# Grade 3 Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Number and Operations- Fractions	Visual Models of Equivalent Fractions	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
		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
	Whole Numbers as Fractions	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
	Whole Numbers as Fractions on the Number Line	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
	Comparing Fractions with the Same Numerator or Denominator	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
	Recognizing Valid Fraction Comparisons I	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

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Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade 3: Review 3	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 up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate
		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 $=$
		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
		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
		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
		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

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Unit	Lesson Name	Standard Code	Standard Description
Measurement and Data	Unit Squares	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
	Concept of Area	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
	Area of Rectangles	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
	Recognizing Area as Additive	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
Operations and Algebraic Thinking	Properties of Addition and Multiplication	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
		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
	Using Visual Models to Understand the Distributive Property	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



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Unit	Lesson Name	Standard Code	Standard Description
Measurement and Data	Area of Basic Composite Figures	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
		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
	Perimeter	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
		4.5.C	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: use models to determine the formulas for the perimeter of a rectangle ( $l + w + l + w$ or $2l + 2w$ ), including the special form for perimeter of a square ( $4s$ ) and the area of a rectangle ( $l \times w$ )
		4.5.D	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: solve problems related to perimeter and area of rectangles where dimensions are whole numbers
		5.4.H	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: represent and solve problems related to perimeter and/or area and related to volume
Geometry	Classifying Quadrilaterals I	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
		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
	Classifying 3-Dimensional Figures	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

# Grade 3 Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade 3: Review 4	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 up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate
		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 $=$
		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
		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
		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
		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
		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
		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

# Grade 3 Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Measurement and Data	Capacity or Weight	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
		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
	Money Sense	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
Financial Literacy	Saving Money	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
		4.10.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: compare the advantages and disadvantages of various savings options
	Money Decisions	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
		4.10.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: describe how to allocate a weekly allowance among spending; saving, including for college; and sharing
Measurement and Data	Adding Time	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
	Adding and Subtracting Time	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
	Introduction to Data Displays	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
		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

# Grade 3 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Operations and Algebraic Thinking	Input-Output Tables	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
Mixed Review Lessons	STAAR Grade 3: Review 5	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 up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate
		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 $=$
		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
		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
		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
		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
		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
		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
		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

# Grade 3 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade 3: Review 5	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
		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
		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
Financial Literacy	Supply and Cost	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
	Credit Sense	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.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"

# Grade 4

## Texas Learning Pathway

# Grade 4 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Number and Operations in Base Ten	Visualizing Place Value Relationships	n/a	In this introductory lesson, students will: <ul style="list-style-type: none"> <li>• Review valuable content.</li> <li>• Explore TTM features.</li> <li>• Prepare for success on grade-level material.</li> </ul>
	Visualizing Rounding	n/a	In this introductory lesson, students will: <ul style="list-style-type: none"> <li>• Review valuable content.</li> <li>• Explore TTM features.</li> <li>• Prepare for success on grade-level material.</li> </ul>
Operations and Algebraic Thinking	Visualizing Addition and Subtraction	n/a	In this introductory lesson, students will: <ul style="list-style-type: none"> <li>• Review valuable content.</li> <li>• Explore TTM features.</li> <li>• Prepare for success on grade-level material.</li> </ul>
	Visualizing Multiplication and Division	n/a	In this introductory lesson, students will: <ul style="list-style-type: none"> <li>• Review valuable content.</li> <li>• Explore TTM features.</li> <li>• Prepare for success on grade-level material.</li> </ul>
	Developing Fluency Using 2 as a Factor	n/a	In this lesson, students will: <ul style="list-style-type: none"> <li>• Practice a variety of methods that reflect those of mathematically fluent thinkers.</li> <li>• Prepare for success on grade-level material.</li> </ul>
	Developing Fluency Using 5 or 10 as a Factor	n/a	In this lesson, students will: <ul style="list-style-type: none"> <li>• Practice a variety of methods that reflect those of mathematically fluent thinkers.</li> <li>• Prepare for success on grade-level material.</li> </ul>
	Using Halves and Doubles to Solve Multiplication Problems	n/a	In this lesson, students will: <ul style="list-style-type: none"> <li>• Practice a variety of methods that reflect those of mathematically fluent thinkers.</li> <li>• Prepare for success on grade-level material.</li> </ul>

# Grade 4 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Number and Operations in Base Ten	Adding Whole Numbers	4.4.A	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to: add and subtract whole numbers and decimals to the hundredths place using the standard algorithm
	Adding and Subtracting with the Standard Algorithm	4.4.A	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to: add and subtract whole numbers and decimals to the hundredths place using the standard algorithm
	Understanding Place Value Relationships	4.2.A	Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to: interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left
		4.2.B	Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to: represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals
	Using Place Value Concepts to Compare Whole Numbers	4.2.C	Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to: compare and order whole numbers to 1,000,000,000 and represent comparisons using the symbols $>$ , $<$ , or $=$
	Rounding Whole Numbers	4.2.D	Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to: round whole numbers to a given place value through the hundred thousands place
	Using Rounding in Problem Solving	4.2.D	Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to: round whole numbers to a given place value through the hundred thousands place
Mixed Review Lessons	STAAR Grade 4: Review 1	4.4.A	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to: add and subtract whole numbers and decimals to the hundredths place using the standard algorithm
		4.2.B	Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to: represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals



# Grade 4 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Operations and Algebraic Thinking	Solving Multiplication and Division Equations	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
		4.4.E	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to: represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays, area models, or equations
	Multiplication and Division Word Problems - Visual Models	4.4.E	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to: represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays, area models, or equations
	Multiplication and Division Word Problems - Equations	4.4.E	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to: represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays, area models, or equations
	Multiplication and Division Word Problems - Solutions	4.4.H	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to: solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders

# Grade 4 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Number and Operations in Base Ten	Multiplying by Multiples of Ten	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
		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
		4.4.B	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to: determine products of a number and 10 or 100 using properties of operations and place value understandings
	Multiplying Whole Numbers	4.4.C	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to: represent the product of 2 two-digit numbers using arrays, area models, or equations, including perfect squares through 15 by 15
	Multiplying Whole Numbers - Standard Algorithm	4.4.C	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to: represent the product of 2 two-digit numbers using arrays, area models, or equations, including perfect squares through 15 by 15
4.4.D		Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to: use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties	
5.3.B		Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: multiply with fluency a three-digit number by a two-digit number using the standard algorithm	

# Grade 4 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Number and Operations in Base Ten	Dividing Whole Numbers - One-Digit Divisors	4.4.E	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to: represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays, area models, or equations
		4.4.F	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to: use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor
Operations and Algebraic Thinking	Interpreting Remainders	4.4.H	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to: solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders
Mixed Review Lessons	STAAR Grade 4: Review 2	4.2.B	Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to: represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals
		4.4.A	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to: add and subtract whole numbers and decimals to the hundredths place using the standard algorithm
		4.4.H	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to: solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders
		4.5.A	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: represent multi-step problems involving the four operations with whole numbers using strip diagrams and equations with a letter standing for the unknown quantity

# Grade 4 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Operations and Algebraic Thinking	Estimating Sums and Differences - Application	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
		4.4.G	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to: round to the nearest 10, 100, or 1,000 or use compatible numbers to estimate solutions involving whole numbers
	Solving Two-Step Word Problems	4.5.A	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: represent multi-step problems involving the four operations with whole numbers using strip diagrams and equations with a letter standing for the unknown quantity
	Modeling and Solving Two-Step Word Problems	4.5.A	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: represent multi-step problems involving the four operations with whole numbers using strip diagrams and equations with a letter standing for the unknown quantity

# Grade 4 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Number and Operations- Fractions	Modeling Equivalent Fractions	4.3.C	Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to: determine if two given fractions are equivalent using a variety of methods
	Generating Equivalent Fractions	4.3.A	Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to: represent a fraction $a/b$ as a sum of fractions $1/b$ , where $a$ and $b$ are whole numbers and $b > 0$ , including when $a > b$
		4.3.C	Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to: determine if two given fractions are equivalent using a variety of methods
	Reducing Fractions	4.3.C	Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to: determine if two given fractions are equivalent using a variety of methods
	Comparing Fractions with Different Numerators and Different Denominators	4.3.D	Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to: compare two fractions with different numerators and different denominators and represent the comparison using the symbols $>$ , $=$ , or $<$
	Recognizing Valid Fraction Comparisons II	4.3.D	Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to: compare two fractions with different numerators and different denominators and represent the comparison using the symbols $>$ , $=$ , or $<$
	Adding and Subtracting Fractions with Like Denominators	4.3.E	Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to: represent and solve addition and subtraction of fractions with equal denominators using objects and pictorial models that build to the number line and properties of operations
	Adding and Subtracting Fractions with Like Denominators in Real-World Situations	4.3.E	Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to: represent and solve addition and subtraction of fractions with equal denominators using objects and pictorial models that build to the number line and properties of operations
		4.3.F	Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to: evaluate the reasonableness of sums and differences of fractions using benchmark fractions $0$ , $1/4$ , $1/2$ , $3/4$ , and $1$ , referring to the same whole

# Grade 4 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Number and Operations- Fractions	Decomposing Fractions and Mixed Numbers	4.3.A	Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to: represent a fraction $a/b$ as a sum of fractions $1/b$ , where $a$ and $b$ are whole numbers and $b > 0$ , including when $a > b$
		4.3.B	Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to: decompose a fraction in more than one way into a sum of fractions with the same denominator using concrete and pictorial models and recording results with symbolic representations
	Writing Fractions as Mixed Numbers and Mixed Numbers as Fractions	4.3.A	Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to: represent a fraction $a/b$ as a sum of fractions $1/b$ , where $a$ and $b$ are whole numbers and $b > 0$ , including when $a > b$
	Understanding Fractions - Relationship Between Numerator and Denominator	4.3.C	Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to: determine if two given fractions are equivalent using a variety of methods

# Grade 4 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade 4: Review 3	4.2.B	Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to: represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals
		4.2.G	Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to: relate decimals to fractions that name tenths and hundredths
		4.3.E	Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to: represent and solve addition and subtraction of fractions with equal denominators using objects and pictorial models that build to the number line and properties of operations
		4.3.D	Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to: compare two fractions with different numerators and different denominators and represent the comparison using the symbols $>$ , $=$ , or $<$
		4.4.A	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to: add and subtract whole numbers and decimals to the hundredths place using the standard algorithm
		4.4.H	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to: solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders
		4.5.A	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: represent multi-step problems involving the four operations with whole numbers using strip diagrams and equations with a letter standing for the unknown quantity

# Grade 4 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Number and Operations- Fractions	Understanding Fractions with Denominators of 10 and 100	4.3.C	Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to: determine if two given fractions are equivalent using a variety of methods
		4.3.G	Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to: represent fractions and decimals to the tenths or hundredths as distances from zero on a number line
	Comparing Decimal Fractions	4.2.G	Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to: relate decimals to fractions that name tenths and hundredths
		4.3.G	Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to: represent fractions and decimals to the tenths or hundredths as distances from zero on a number line
Number and Operations in Base Ten	Comparing and Ordering Decimal Fractions	4.2.F	Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to: compare and order decimals using concrete and visual models to the hundredths
	Decimal Notation I	4.2.E	Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to: represent decimals, including tenths and hundredths, using concrete and visual models and money
		4.2.H	Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to: determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line
	Decimal Notation II	4.2.B	Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to: represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals



# Grade 4 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Number and Operations- Fractions	Decimals to Hundredths	4.2.B	Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to: represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals
		4.2.E	Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to: represent decimals, including tenths and hundredths, using concrete and visual models and money
		4.2.G	Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to: relate decimals to fractions that name tenths and hundredths
		4.3.G	Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to: represent fractions and decimals to the tenths or hundredths as distances from zero on a number line
Number and Operations in Base Ten	Introduction to Comparing Decimals to Hundredths	4.2.F	Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to: compare and order decimals using concrete and visual models to the hundredths
	Comparing Decimals to Hundredths	4.2.F	Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to: compare and order decimals using concrete and visual models to the hundredths
Number and Operations- Fractions	Recognizing Valid Decimal Comparisons	4.2.F	Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to: compare and order decimals using concrete and visual models to the hundredths
Number and Operations in Base Ten	Place Value Relationship Within Whole Numbers and Decimals	4.2.A	Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to: interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left
	Adding and Subtracting Decimals	4.4.A	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to: add and subtract whole numbers and decimals to the hundredths place using the standard algorithm
	Adding and Subtracting Decimals in Real-World Situations	4.4.A	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to: add and subtract whole numbers and decimals to the hundredths place using the standard algorithm

# Grade 4 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade 4: Review 4	4.2.B	Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to: represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals
		4.5.D	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: solve problems related to perimeter and area of rectangles where dimensions are whole numbers
		4.2.G	Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to: relate decimals to fractions that name tenths and hundredths
		4.3.D	Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to: compare two fractions with different numerators and different denominators and represent the comparison using the symbols $>$ , $=$ , or $<$
		4.3.E	Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to: represent and solve addition and subtraction of fractions with equal denominators using objects and pictorial models that build to the number line and properties of operations
		4.4.A	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to: add and subtract whole numbers and decimals to the hundredths place using the standard algorithm
		4.4.H	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to: solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders
		4.5.A	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: represent multi-step problems involving the four operations with whole numbers using strip diagrams and equations with a letter standing for the unknown quantity
		4.7.C	Geometry and measurement. The student applies mathematical process standards to solve problems involving angles less than or equal to 180 degrees. The student is expected to: determine the approximate measures of angles in degrees to the nearest whole number using a protractor

# Grade 4 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description	
Mixed Review Lessons	STAAR Grade 4: Review 4	4.8.C	Geometry and measurement. The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement. The student is expected to: solve problems that deal with measurements of length, intervals of time, liquid volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate	
Measurement and Data	Perimeter	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	
		4.5.C	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: use models to determine the formulas for the perimeter of a rectangle ( $l + w + l + w$ or $2l + 2w$ ), including the special form for perimeter of a square ( $4s$ ) and the area of a rectangle ( $l \times w$ )	
		4.5.D	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: solve problems related to perimeter and area of rectangles where dimensions are whole numbers	
		5.4.H	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: represent and solve problems related to perimeter and/or area and related to volume	
	Area and Perimeter of Rectangles	4.5.C	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: use models to determine the formulas for the perimeter of a rectangle ( $l + w + l + w$ or $2l + 2w$ ), including the special form for perimeter of a square ( $4s$ ) and the area of a rectangle ( $l \times w$ )	
		4.5.D	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: solve problems related to perimeter and area of rectangles where dimensions are whole numbers	
		4.8.C	Geometry and measurement. The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement. The student is expected to: solve problems that deal with measurements of length, intervals of time, liquid volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate	
		5.4.H	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: represent and solve problems related to perimeter and/or area and related to volume	
	Identifying and Comparing Angles		4.7.E	Geometry and measurement. The student applies mathematical process standards to solve problems involving angles less than or equal to 180 degrees. The student is expected to: determine the measure of an unknown angle formed by two non-overlapping adjacent angles given one or both angle measures

# Grade 4 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Measurement and Data	Angles 0 to 180	4.7.A	Geometry and measurement. The student applies mathematical process standards to solve problems involving angles less than or equal to 180 degrees. The student is expected to: illustrate the measure of an angle as the part of a circle whose center is at the vertex of the angle that is "cut out" by the rays of the angle. Angle measures are limited to whole numbers
		4.7.B	Geometry and measurement. The student applies mathematical process standards to solve problems involving angles less than or equal to 180 degrees. The student is expected to: illustrate degrees as the units used to measure an angle, where $1/360$ of any circle is one degree and an angle that "cuts" $n/360$ out of any circle whose center is at the angle's vertex has a measure of $n$ degrees. Angle measures are limited to whole numbers
		4.7.C	Geometry and measurement. The student applies mathematical process standards to solve problems involving angles less than or equal to 180 degrees. The student is expected to: determine the approximate measures of angles in degrees to the nearest whole number using a protractor
		4.7.D	Geometry and measurement. The student applies mathematical process standards to solve problems involving angles less than or equal to 180 degrees. The student is expected to: draw an angle with a given measure
		4.7.E	Geometry and measurement. The student applies mathematical process standards to solve problems involving angles less than or equal to 180 degrees. The student is expected to: determine the measure of an unknown angle formed by two non-overlapping adjacent angles given one or both angle measures

# Grade 4 Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Geometry	Identifying and Classifying Lines, Rays, and Segments	4.6.A	Geometry and measurement. The student applies mathematical process standards to analyze geometric attributes in order to develop generalizations about their properties. The student is expected to: identify points, lines, line segments, rays, angles, and perpendicular and parallel lines
		4.6.D	Geometry and measurement. The student applies mathematical process standards to analyze geometric attributes in order to develop generalizations about their properties. The student is expected to: classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size
	Classifying Triangles	4.6.C	Geometry and measurement. The student applies mathematical process standards to analyze geometric attributes in order to develop generalizations about their properties. The student is expected to: apply knowledge of right angles to identify acute, right, and obtuse triangles
		4.6.D	Geometry and measurement. The student applies mathematical process standards to analyze geometric attributes in order to develop generalizations about their properties. The student is expected to: classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size
		5.5.A	Geometry and measurement. The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to: classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties
	Classifying Quadrilaterals II	4.6.A	Geometry and measurement. The student applies mathematical process standards to analyze geometric attributes in order to develop generalizations about their properties. The student is expected to: identify points, lines, line segments, rays, angles, and perpendicular and parallel lines
		4.6.D	Geometry and measurement. The student applies mathematical process standards to analyze geometric attributes in order to develop generalizations about their properties. The student is expected to: classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size
	Classifying 2-Dimensional Figures	4.6.D	Geometry and measurement. The student applies mathematical process standards to analyze geometric attributes in order to develop generalizations about their properties. The student is expected to: classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size
	Symmetry	4.6.B	Geometry and measurement. The student applies mathematical process standards to analyze geometric attributes in order to develop generalizations about their properties. The student is expected to: identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure

# Grade 4 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Measurement and Data	Line Plots	4.9.A	Data analysis. The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. The student is expected to: represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions
		4.9.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 data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem-and-leaf plot
		6.12.A	Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to analyze problems. The student is expected to: represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots
		6.13.A	Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to solve problems. The student is expected to: interpret numeric data summarized in dot plots, stem-and-leaf plots, histograms, and box plots
		7.6.G	Proportionality. The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. The student is expected to: solve problems using data represented in bar graphs, dot plots, and circle graphs, including part-to-whole and part-to-part comparisons and equivalents
	Stem-and-Leaf Plots	4.9.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 data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem-and-leaf plot
	Units of Measure - Customary	4.8.A	Geometry and measurement. The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement. The student is expected to: identify relative sizes of measurement units within the customary and metric systems
		4.8.B	Geometry and measurement. The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement. The student is expected to: convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table
		4.8.C	Geometry and measurement. The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement. The student is expected to: solve problems that deal with measurements of length, intervals of time, liquid volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate
		5.7.A	Geometry and measurement. The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving measurement. The student is expected to solve problems by calculating conversions within a measurement system, customary or metric

# Grade 4 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Measurement and Data	Units of Measure - Metric	4.8.A	Geometry and measurement. The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement. The student is expected to: identify relative sizes of measurement units within the customary and metric systems
		4.8.B	Geometry and measurement. The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement. The student is expected to: convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table
		4.8.C	Geometry and measurement. The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement. The student is expected to: solve problems that deal with measurements of length, intervals of time, liquid volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate
		5.7.A	Geometry and measurement. The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving measurement. The student is expected to solve problems by calculating conversions within a measurement system, customary or metric
	Adding and Subtracting Time	4.8.C	Geometry and measurement. The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement. The student is expected to: solve problems that deal with measurements of length, intervals of time, liquid volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate
Operations and Algebraic Thinking	Generating and Describing Number Patterns	4.5.B	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: represent problems using an input-output table and numerical expressions to generate a number pattern that follows a given rule representing the relationship of the values in the resulting sequence and their position in the sequence
		5.4.C	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: generate a numerical pattern when given a rule in the form $y = ax$ or $y = x + a$ and graph
Mixed Review Lessons	STAAR Grade 4: Review 5	4.2.B	Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to: represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals
		4.2.G	Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to: relate decimals to fractions that name tenths and hundredths

# Grade 4 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade 4: Review 5	4.3.D	Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to: compare two fractions with different numerators and different denominators and represent the comparison using the symbols $>$ , $=$ , or $<$
		4.3.E	Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to: represent and solve addition and subtraction of fractions with equal denominators using objects and pictorial models that build to the number line and properties of operations
		4.4.A	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to: add and subtract whole numbers and decimals to the hundredths place using the standard algorithm
		4.4.H	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to: solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders
		4.5.A	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: represent multi-step problems involving the four operations with whole numbers using strip diagrams and equations with a letter standing for the unknown quantity
		4.5.B	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: represent problems using an input-output table and numerical expressions to generate a number pattern that follows a given rule representing the relationship of the values in the resulting sequence and their position in the sequence
		4.5.D	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: solve problems related to perimeter and area of rectangles where dimensions are whole numbers
		4.6.D	Geometry and measurement. The student applies mathematical process standards to analyze geometric attributes in order to develop generalizations about their properties. The student is expected to: classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size
4.7.C	Geometry and measurement. The student applies mathematical process standards to solve problems involving angles less than or equal to 180 degrees. The student is expected to: determine the approximate measures of angles in degrees to the nearest whole number using a protractor		



# Grade 4 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade 4: Review 5	4.8.C	Geometry and measurement. The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement. The student is expected to: solve problems that deal with measurements of length, intervals of time, liquid volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate
		4.9.A	Data analysis. The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. The student is expected to: represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions
Financial Literacy	Expenses and Profit	4.10.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: distinguish between fixed and variable expenses
		4.10.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: calculate profit in a given situation
	Saving Money	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
		4.10.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: compare the advantages and disadvantages of various savings options
	Money Decisions	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
		4.8.C	Geometry and measurement. The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement. The student is expected to: solve problems that deal with measurements of length, intervals of time, liquid volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate
		4.10.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: describe how to allocate a weekly allowance among spending; saving, including for college; and sharing
	Credit Sense	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

# Grade 5

## Texas Learning Pathway

# Grade 5 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Operations and Algebraic Thinking	Relating Factors and Multiples I	5.4.A	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: identify prime and composite numbers
	Factors	5.4.A	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: identify prime and composite numbers
	Relating Factors and Multiples II	5.4.A	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: identify prime and composite numbers
Number and Operations in Base Ten	Estimating Solutions to Multistep Word Problems	5.3.A	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: estimate to determine solutions to mathematical and real-world problems involving addition, subtraction, multiplication, or division
Number and Operations - Fractions	Word Problems with Fractions and Mixed Numbers - Visual Models	5.3.K	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: add and subtract positive rational numbers fluently
	Word Problems with Fractions and Mixed Numbers - Estimation	5.3.K	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: add and subtract positive rational numbers fluently
	Adding and Subtracting Mixed Numbers with Like Denominators - Conceptual Strategies	5.3.K	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: add and subtract positive rational numbers fluently
	Adding and Subtracting Mixed Numbers with Like Denominators	5.3.K	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: add and subtract positive rational numbers fluently

# Grade 5 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade 5: Review 1	5.3.K	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: add and subtract positive rational numbers fluently
		5.4.B	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: represent and solve multi-step problems involving the four operations with whole numbers using equations with a letter standing for the unknown quantity
Number and Operations- Fractions	Multiplying Unit Fractions by Whole Numbers	5.3.I	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: represent and solve multiplication of a whole number and a fraction that refers to the same whole using objects and pictorial models, including area models
		6.3.B	Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to: determine, with and without computation, whether a quantity is increased or decreased when multiplied by a fraction, including values greater than or less than one
	Multiplying Fractions by Whole Numbers	5.3.I	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: represent and solve multiplication of a whole number and a fraction that refers to the same whole using objects and pictorial models, including area models
		6.3.B	Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to: determine, with and without computation, whether a quantity is increased or decreased when multiplied by a fraction, including values greater than or less than one
	Solving Word Problems with Multiplication of Fractions by Whole Numbers	5.3.I	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: represent and solve multiplication of a whole number and a fraction that refers to the same whole using objects and pictorial models, including area models
		6.3.B	Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to: determine, with and without computation, whether a quantity is increased or decreased when multiplied by a fraction, including values greater than or less than one

# Grade 5 Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Number and Operations- Fractions	Multiplying Fractions by Whole Numbers to Solve Multistep Problems	5.3.I	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: represent and solve multiplication of a whole number and a fraction that refers to the same whole using objects and pictorial models, including area models
	Adding Fractions with Denominators of 10 or 100	5.3.H	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operations
	Adding Fractions	5.3.H	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operations
	Adding Fractions - Estimation Strategies	5.3.H	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operations
	Subtracting Fractions	5.3.H	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operations
	Subtracting Fractions - Estimation Strategies	5.3.H	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operations
	Adding and Subtracting Fractions	5.3.H	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operations

# Grade 5 Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Number and Operations- Fractions	Adding and Subtracting Fractions - Multistep Word Problems	5.3.H	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operations
		5.3.J	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: represent division of a unit fraction by a whole number and the division of a whole number by a unit fraction such as $1/3 \div 7$ and $7 \div 1/3$ using objects and pictorial models, including area models
			5.3.L
	Dividing Unit Fractions by Whole Numbers	5.3.J	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: represent division of a unit fraction by a whole number and the division of a whole number by a unit fraction such as $1/3 \div 7$ and $7 \div 1/3$ using objects and pictorial models, including area models
			5.3.L
		5.3.L	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: divide whole numbers by unit fractions and unit fractions by whole numbers
Dividing Whole Numbers by Unit Fractions	5.3.L	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: divide whole numbers by unit fractions and unit fractions by whole numbers	
		5.3.L	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: divide whole numbers by unit fractions and unit fractions by whole numbers
		5.3.L	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: divide whole numbers by unit fractions and unit fractions by whole numbers
Mixed Review Lessons	STAAR Grade 5: Review 2	5.3.K	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: add and subtract positive rational numbers fluently
		5.3.L	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: divide whole numbers by unit fractions and unit fractions by whole numbers
		5.4.B	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: represent and solve multi-step problems involving the four operations with whole numbers using equations with a letter standing for the unknown quantity

# Grade 5 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Number and Operations in Base Ten	Operations with Whole Numbers - Mixed Practice	5.3.B	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: multiply with fluency a three-digit number by a two-digit number using the standard algorithm
		5.3.C	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: solve with proficiency for quotients of up to a four-digit dividend by a two-digit divisor using strategies and the standard algorithm
		5.3.K	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: add and subtract positive rational numbers fluently
		5.4.B	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: represent and solve multi-step problems involving the four operations with whole numbers using equations with a letter standing for the unknown quantity
	Multiplying Whole Numbers - Standard Algorithm	4.4.D	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to: use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties
		5.3.B	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: multiply with fluency a three-digit number by a two-digit number using the standard algorithm
	Dividing Whole Numbers - Two-Digit Divisors	5.3.C	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: solve with proficiency for quotients of up to a four-digit dividend by a two-digit divisor using strategies and the standard algorithm
	Decimals to Thousandths	5.2.A	Number and operations. The student applies mathematical process standards to represent, compare, and order positive rational numbers and understand relationships as related to place value. The student is expected to: represent the value of the digit in decimals through the thousandths using expanded notation and numerals

# Grade 5 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description	
Number and Operations in Base Ten	Comparing Decimals to Thousandths	5.2.B	Number and operations. The student applies mathematical process standards to represent, compare, and order positive rational numbers and understand relationships as related to place value. The student is expected to: compare and order two decimals to thousandths and represent comparisons using the symbols $>$ , $<$ , or $=$	
	Rounding Decimals to the Nearest Tenth and Hundredth	5.2.C	Number and operations. The student applies mathematical process standards to represent, compare, and order positive rational numbers and understand relationships as related to place value. The student is expected to: round decimals to tenths or hundredths	
	Reasoning About Rounding Decimals	5.2.C	Number and operations. The student applies mathematical process standards to represent, compare, and order positive rational numbers and understand relationships as related to place value. The student is expected to: round decimals to tenths or hundredths	
	Adding and Subtracting Decimals	5.3.K	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: add and subtract positive rational numbers fluently	
	Adding and Subtracting Decimals in Real-World Situations	5.3.K	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: add and subtract positive rational numbers fluently	
	Multiplying Decimals to Hundredths		5.3.D	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: represent multiplication of decimals with products to the hundredths using objects and pictorial models, including area models
			5.3.E	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: solve for products of decimals to the hundredths, including situations involving money, using strategies based on place-value understandings, properties of operations, and the relationship to the multiplication of whole numbers
Expressions and Equations	Evaluating Simple Expressions	5.4.E	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: describe the meaning of parentheses and brackets in a numeric expression	
		5.4.F	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: simplify numerical expressions that do not involve exponents, including up to two levels of grouping	



# Grade 5 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Operations and Algebraic Thinking	Writing Simple Expressions	5.4.B	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: represent and solve multi-step problems involving the four operations with whole numbers using equations with a letter standing for the unknown quantity
	Writing and Interpreting Simple Expressions	5.4.B	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: represent and solve multi-step problems involving the four operations with whole numbers using equations with a letter standing for the unknown quantity
		5.4.F	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: simplify numerical expressions that do not involve exponents, including up to two levels of grouping
Mixed Review Lessons	STAAR Grade 5: Review 3	5.2.B	Number and operations. The student applies mathematical process standards to represent, compare, and order positive rational numbers and understand relationships as related to place value. The student is expected to: compare and order two decimals to thousandths and represent comparisons using the symbols $>$ , $<$ , or $=$
		5.3.E	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: solve for products of decimals to the hundredths, including situations involving money, using strategies based on place-value understandings, properties of operations, and the relationship to the multiplication of whole numbers
		5.3.G	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: solve for quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using strategies and algorithms, including the standard algorithm
		5.3.K	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: add and subtract positive rational numbers fluently
		5.3.L	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: divide whole numbers by unit fractions and unit fractions by whole numbers
		5.4.B	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: represent and solve multi-step problems involving the four operations with whole numbers using equations with a letter standing for the unknown quantity
		5.4.B	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: represent and solve multi-step problems involving the four operations with whole numbers using equations with a letter standing for the unknown quantity

# Grade 5 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Measurement and Data	Area and Perimeter of Rectangles	4.5.C	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: use models to determine the formulas for the perimeter of a rectangle ( $l + w + l + w$ or $2l + 2w$ ), including the special form for perimeter of a square ( $4s$ ) and the area of a rectangle ( $l \times w$ )
		4.5.D	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: solve problems related to perimeter and area of rectangles where dimensions are whole numbers
		4.8.C	Geometry and measurement. The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement. The student is expected to: solve problems that deal with measurements of length, intervals of time, liquid volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate
		5.4.H	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: represent and solve problems related to perimeter and/or area and related to volume
Geometry	Introduction to the Coordinate Plane	5.8.A	Geometry and measurement. The student applies mathematical process standards to identify locations on a coordinate plane. The student is expected to: describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point $(0, 0)$ ; the x-coordinate, the first number in an ordered pair, indicates movement parallel to the x-axis starting at the origin; and the y-coordinate, the second number, indicates movement parallel to the y-axis starting at the origin
		5.8.B	Geometry and measurement. The student applies mathematical process standards to identify locations on a coordinate plane. The student is expected to: describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane
		5.8.C	Geometry and measurement. The student applies mathematical process standards to identify locations on a coordinate plane. The student is expected to: graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table

# Grade 5 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Geometry	Representing Real-World Quantities in the First Quadrant	5.4.C	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: generate a numerical pattern when given a rule in the form $y = ax$ or $y = x + a$ and graph
		5.8.B	Geometry and measurement. The student applies mathematical process standards to identify locations on a coordinate plane. The student is expected to: describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane
		5.8.C	Geometry and measurement. The student applies mathematical process standards to identify locations on a coordinate plane. The student is expected to: graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table
	Introduction to Scatter Plots	5.9.A	Data analysis. The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. The student is expected to: represent categorical data with bar graphs or frequency tables and numerical data, including data sets of measurements in fractions or decimals, with dot plots or stem-and-leaf plots
		5.9.B	Data analysis. The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. The student is expected to: represent discrete paired data on a scatterplot
		5.9.C	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 data from a frequency table, dot plot, bar graph, stem-and-leaf plot, or scatterplot
Measurement and Data	Volume of Rectangular Prisms I	5.4.G	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: use concrete objects and pictorial models to develop the formulas for the volume of a rectangular prism, including the special form for a cube ( $V = l \times w \times h$ , $V = s \times s \times s$ , and $V = Bh$ )
		5.4.H	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: represent and solve problems related to perimeter and/or area and related to volume
		5.6.A	Geometry and measurement. The student applies mathematical process standards to understand, recognize, and quantify volume. The student is expected to: recognize a cube with side length of one unit as a unit cube having one cubic unit of volume and the volume of a three-dimensional figure as the number of unit cubes ( $n$ cubic units) needed to fill it with no gaps or overlaps if possible
		5.6.B	Geometry and measurement. The student applies mathematical process standards to understand, recognize, and quantify volume. The student is expected to: determine the volume of a rectangular prism with whole number side lengths in problems related to the number of layers times the number of unit cubes in the area of the base

# Grade 5 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Measurement and Data	Volume of Rectangular Prisms II	5.4.G	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: use concrete objects and pictorial models to develop the formulas for the volume of a rectangular prism, including the special form for a cube ( $V = l \times w \times h$ , $V = s \times s \times s$ , and $V = Bh$ )
		6.8.C	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to represent relationships and solve problems. The student is expected to: write equations that represent problems related to the area of rectangles, parallelograms, trapezoids, and triangles and volume of right rectangular prisms where dimensions are positive rational numbers
		6.8.D	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to represent relationships and solve problems. The student is expected to: determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles and volume of right rectangular prisms where dimensions are positive rational numbers
Geometry	Classifying Triangles	4.6.C	Geometry and measurement. The student applies mathematical process standards to analyze geometric attributes in order to develop generalizations about their properties. The student is expected to: apply knowledge of right angles to identify acute, right, and obtuse triangles
		4.6.D	Geometry and measurement. The student applies mathematical process standards to analyze geometric attributes in order to develop generalizations about their properties. The student is expected to: classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size
		5.5.A	Geometry and measurement. The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to: classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties
	Classifying 2-Dimensional Figures	5.5.A	Geometry and measurement. The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to: classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties
Mixed Review Lessons	STAAR Grade 5: Review 4	5.2.B	Number and operations. The student applies mathematical process standards to represent, compare, and order positive rational numbers and understand relationships as related to place value. The student is expected to: compare and order two decimals to thousandths and represent comparisons using the symbols $>$ , $<$ , or $=$
		5.3.E	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: solve for products of decimals to the hundredths, including situations involving money, using strategies based on place-value understandings, properties of operations, and the relationship to the multiplication of whole numbers

# Grade 5 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade 5: Review 4	5.3.G	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: solve for quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using strategies and algorithms, including the standard algorithm
		5.3.K	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: add and subtract positive rational numbers fluently
		5.3.L	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: divide whole numbers by unit fractions and unit fractions by whole numbers
		5.4.B	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: represent and solve multi-step problems involving the four operations with whole numbers using equations with a letter standing for the unknown quantity
		5.4.F	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: simplify numerical expressions that do not involve exponents, including up to two levels of grouping
		5.4.H	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: represent and solve problems related to perimeter and/or area and related to volume
		5.8.C	Geometry and measurement. The student applies mathematical process standards to identify locations on a coordinate plane. The student is expected to: graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table

# Grade 5 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Measurement and Data	Units of Measure - Customary	4.8.A	Geometry and measurement. The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement. The student is expected to: identify relative sizes of measurement units within the customary and metric systems
		4.8.B	Geometry and measurement. The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement. The student is expected to: convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table
		5.7.A	Geometry and measurement. The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving measurement. The student is expected to solve problems by calculating conversions within a measurement system, customary or metric
	Units of Measure - Metric	4.8.A	Geometry and measurement. The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement. The student is expected to: identify relative sizes of measurement units within the customary and metric systems
		4.8.B	Geometry and measurement. The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement. The student is expected to: convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table
		5.7.A	Geometry and measurement. The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving measurement. The student is expected to solve problems by calculating conversions within a measurement system, customary or metric

# Grade 5 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Statistics and Probability	Bar Graphs and Histograms	5.9.A	Data analysis. The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. The student is expected to: represent categorical data with bar graphs or frequency tables and numerical data, including data sets of measurements in fractions or decimals, with dot plots or stem-and-leaf plots
		5.9.C	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 data from a frequency table, dot plot, bar graph, stem-and-leaf plot, or scatterplot
		6.12.A	Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to analyze problems. The student is expected to: represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots
		6.13.A	Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to solve problems. The student is expected to: interpret numeric data summarized in dot plots, stem-and-leaf plots, histograms, and box plots
		7.6.G	Proportionality. The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. The student is expected to: solve problems using data represented in bar graphs, dot plots, and circle graphs, including part-to-whole and part-to-part comparisons and equivalents
Operations and Algebraic Thinking	Additive and Multiplicative Patterns	5.4.D	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: recognize the difference between additive and multiplicative numerical patterns given in a table or graph
	Generating and Describing Number Patterns	4.5.B	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: represent problems using an input-output table and numerical expressions to generate a number pattern that follows a given rule representing the relationship of the values in the resulting sequence and their position in the sequence
		5.4.C	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: generate a numerical pattern when given a rule in the form $y = ax$ or $y = x + a$ and graph

# Grade 5 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade 5: Review 5	5.2.B	Number and operations. The student applies mathematical process standards to represent, compare, and order positive rational numbers and understand relationships as related to place value. The student is expected to: compare and order two decimals to thousandths and represent comparisons using the symbols $>$ , $<$ , or $=$
		5.3.E	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: solve for products of decimals to the hundredths, including situations involving money, using strategies based on place-value understandings, properties of operations, and the relationship to the multiplication of whole numbers
		5.3.G	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: solve for quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using strategies and algorithms, including the standard algorithm
		5.3.K	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: add and subtract positive rational numbers fluently
		5.3.L	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: divide whole numbers by unit fractions and unit fractions by whole numbers
		5.4.B	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: represent and solve multi-step problems involving the four operations with whole numbers using equations with a letter standing for the unknown quantity
		5.4.C	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: generate a numerical pattern when given a rule in the form $y = ax$ or $y = x + a$ and graph
		5.4.F	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: simplify numerical expressions that do not involve exponents, including up to two levels of grouping
		5.4.H	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: represent and solve problems related to perimeter and/or area and related to volume



# Grade 5 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade 5: Review 5	5.5.A	Geometry and measurement. The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to: classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties
		5.8.C	Geometry and measurement. The student applies mathematical process standards to identify locations on a coordinate plane. The student is expected to: graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table
		5.9.C	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 data from a frequency table, dot plot, bar graph, stem-and-leaf plot, or scatterplot
Financial Literacy	Methods of Payment	5.10.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 advantages and disadvantages of different methods of payment, including check, credit card, debit card, and electronic payments
		6.14.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: compare the features and costs of a checking account and a debit card offered by different local financial institutions
		6.14.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: distinguish between debit cards and credit cards
		8.12.E	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: identify and explain the advantages and disadvantages of different payment methods
	Balancing a Budget	5.10.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: develop a system for keeping and using financial records
		5.10.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: describe actions that might be taken to balance a budget when expenses exceed income
		5.10.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: balance a simple budget
		6.14.C	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: balance a check register that includes deposits, withdrawals, and transfers

# Grade 5 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Number and Operations in Base Ten	Dividing Decimals to Hundredths	5.3.F	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: represent quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using objects and pictorial models, including area models
		5.3.G	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: solve for quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using strategies and algorithms, including the standard algorithm

# Grade 6

## Texas Learning Pathway

# Grade 6 Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Number and Operations in Base Ten	Dividing Whole Numbers - Standard Algorithm	6.3.E	Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to: multiply and divide positive rational numbers fluently
Number and Operations- Fractions	Multiplying Unit Fractions by Whole Numbers	5.3.I	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: represent and solve multiplication of a whole number and a fraction that refers to the same whole using objects and pictorial models, including area models
		6.3.B	Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to: determine, with and without computation, whether a quantity is increased or decreased when multiplied by a fraction, including values greater than or less than one
	Multiplying Fractions by Whole Numbers	5.3.I	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: represent and solve multiplication of a whole number and a fraction that refers to the same whole using objects and pictorial models, including area models
		6.3.B	Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to: determine, with and without computation, whether a quantity is increased or decreased when multiplied by a fraction, including values greater than or less than one
	Solving Word Problems with Multiplication of Fractions by Whole Numbers	5.3.I	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to: represent and solve multiplication of a whole number and a fraction that refers to the same whole using objects and pictorial models, including area models
		6.3.B	Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to: determine, with and without computation, whether a quantity is increased or decreased when multiplied by a fraction, including values greater than or less than one
	Understanding Fractions as Division	6.2.E	Number and operations. The student applies mathematical process standards to represent and use rational numbers in a variety of forms. The student is expected to: extend representations for division to include fraction notation such as $\frac{a}{b}$ represents the same number as $a \div b$ where $b \neq 0$
	Multiplying with Fractions and Mixed Numbers	6.3.E	Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to: multiply and divide positive rational numbers fluently

# Grade 6 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
The Number System	Using the Relationship Between Multiplication and Division to Divide Fractions	6.3.A	Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to: recognize that dividing by a rational number and multiplying by its reciprocal result in equivalent values
		6.3.B	Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to: determine, with and without computation, whether a quantity is increased or decreased when multiplied by a fraction, including values greater than or less than one
		6.3.E	Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to: multiply and divide positive rational numbers fluently
	Dividing Fractions by Fractions	6.3.E	Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to: multiply and divide positive rational numbers fluently
	Using Division of Fractions to Represent and Solve Problems	6.3.E	Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to: multiply and divide positive rational numbers fluently
Mixed Review Lessons	STAAR Grade 6: Review 1	6.3.E	Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to: multiply and divide positive rational numbers fluently
		6.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: generate equivalent numerical expressions using order of operations, including whole number exponents and prime factorization
Number and Operations in Base Ten	Fraction and Decimal Equivalents	6.4.G	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: generate equivalent forms of fractions, decimals, and percents using real-world problems, including problems that involve money
	Comparing Fractions and Decimals	6.4.G	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: generate equivalent forms of fractions, decimals, and percents using real-world problems, including problems that involve money
Number and Operations- Fractions	Using Division to Write Fractions as Decimals	6.4.G	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: generate equivalent forms of fractions, decimals, and percents using real-world problems, including problems that involve money

# Grade 6 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Number and Operations in Base Ten	Multiplying by Powers of Ten	6.3.E	Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to: multiply and divide positive rational numbers fluently
		6.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: generate equivalent numerical expressions using order of operations, including whole number exponents and prime factorization
	Multiplying and Dividing by Powers of Ten	6.3.E	Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to: multiply and divide positive rational numbers fluently
		6.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: generate equivalent numerical expressions using order of operations, including whole number exponents and prime factorization
The Number System	Greatest Common Factor	6.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: generate equivalent numerical expressions using order of operations, including whole number exponents and prime factorization
	Greatest Common Factor - Applications	6.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: generate equivalent numerical expressions using order of operations, including whole number exponents and prime factorization
	Least Common Multiple	6.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: generate equivalent numerical expressions using order of operations, including whole number exponents and prime factorization
Mixed Review Lessons	STAAR Grade 6: Review 2	6.3.E	Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to: multiply and divide positive rational numbers fluently
		6.4.G	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: generate equivalent forms of fractions, decimals, and percents using real-world problems, including problems that involve money

# Grade 6 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade 6: Review 2	6.4.H	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: convert units within a measurement system, including the use of proportions and unit rates
		6.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: generate equivalent numerical expressions using order of operations, including whole number exponents and prime factorization
		6.4.B	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: apply qualitative and quantitative reasoning to solve prediction and comparison of real-world problems involving ratios and rates
Ratios and Proportional Relationships	Identifying Ratios	6.4.E	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: represent ratios and percents with concrete models, fractions, and decimals
		6.5.A	Proportionality. The student applies mathematical process standards to solve problems involving proportional relationships. The student is expected to: represent mathematical and real-world problems involving ratios and rates using scale factors, tables, graphs, and proportions
	Ratios	6.4.E	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: represent ratios and percents with concrete models, fractions, and decimals
		6.5.A	Proportionality. The student applies mathematical process standards to solve problems involving proportional relationships. The student is expected to: represent mathematical and real-world problems involving ratios and rates using scale factors, tables, graphs, and proportions
	Concept of Ratios and Rates	6.4.C	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: give examples of ratios as multiplicative comparisons of two quantities describing the same attribute
		6.4.D	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: give examples of rates as the comparison by division of two quantities having different attributes, including rates as quotients
	Using Ratios to Solve Problems	6.4.B	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: apply qualitative and quantitative reasoning to solve prediction and comparison of real-world problems involving ratios and rates

# Grade 6 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Ratios and Proportional Relationships	Identifying Unit Rates	6.5.A	Proportionality. The student applies mathematical process standards to solve problems involving proportional relationships. The student is expected to: represent mathematical and real-world problems involving ratios and rates using scale factors, tables, graphs, and proportions
		6.4.E	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: represent ratios and percents with concrete models, fractions, and decimals
	Converting Units of Measure I	6.4.H	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: convert units within a measurement system, including the use of proportions and unit rates
	Converting Units of Measure II	6.4.H	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: convert units within a measurement system, including the use of proportions and unit rates
		7.4.E	Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to: convert between measurement systems, including the use of proportions and the use of unit rates
	Percent Concepts	6.4.E	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: represent ratios and percents with concrete models, fractions, and decimals
		6.4.F	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: represent benchmark fractions and percents such as 1%, 10%, 25%, 33 1/3%, and multiples of these values using 10 by 10 grids, strip diagrams, number lines, and numbers
		6.5.B	Proportionality. The student applies mathematical process standards to solve problems involving proportional relationships. The student is expected to: solve real-world problems to find the whole given a part and the percent, to find the part given the whole and the percent, and to find the percent given the part and the whole, including the use of concrete and pictorial models
	Reasoning with Percents	6.4.E	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: represent ratios and percents with concrete models, fractions, and decimals
		6.4.F	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: represent benchmark fractions and percents such as 1%, 10%, 25%, 33 1/3%, and multiples of these values using 10 by 10 grids, strip diagrams, number lines, and numbers



# Grade 6 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Ratios and Proportional Relationships	Reasoning with Percents	6.5.B	Proportionality. The student applies mathematical process standards to solve problems involving proportional relationships. The student is expected to: solve real-world problems to find the whole given a part and the percent, to find the part given the whole and the percent, and to find the percent given the part and the whole, including the use of concrete and pictorial models
	Calculations with Percent	6.5.B	Proportionality. The student applies mathematical process standards to solve problems involving proportional relationships. The student is expected to: solve real-world problems to find the whole given a part and the percent, to find the part given the whole and the percent, and to find the percent given the part and the whole, including the use of concrete and pictorial models
	Proportion Concepts	6.4.A	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: compare two rules verbally, numerically, graphically, and symbolically in the form of $y = ax$ or $y = x + a$ in order to differentiate between additive and multiplicative relationships
		6.5.A	Proportionality. The student applies mathematical process standards to solve problems involving proportional relationships. The student is expected to: represent mathematical and real-world problems involving ratios and rates using scale factors, tables, graphs, and proportions
		7.4.A	Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to: represent constant rates of change in mathematical and real-world problems given pictorial, tabular, verbal, numeric, graphical, and algebraic representations, including $d = rt$
		7.4.C	Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to: determine the constant of proportionality ( $k = y/x$ ) within mathematical and real-world problems
Mixed Review Lessons	STAAR Grade 6: Review 3	6.2.D	Number and operations. The student applies mathematical process standards to represent and use rational numbers in a variety of forms. The student is expected to: order a set of rational numbers arising from mathematical and real-world contexts
		6.3.D	Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to: add, subtract, multiply, and divide integers fluently
		6.3.E	Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to: multiply and divide positive rational numbers fluently

# Grade 6 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade 6: Review 3	6.4.B	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: apply qualitative and quantitative reasoning to solve prediction and comparison of real-world problems involving ratios and rates
		6.4.G	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: generate equivalent forms of fractions, decimals, and percents using real-world problems, including problems that involve money
		6.4.H	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: convert units within a measurement system, including the use of proportions and unit rates
		6.5.B	Proportionality. The student applies mathematical process standards to solve problems involving proportional relationships. The student is expected to: solve real-world problems to find the whole given a part and the percent, to find the part given the whole and the percent, and to find the percent given the part and the whole, including the use of concrete and pictorial models
		6.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: generate equivalent numerical expressions using order of operations, including whole number exponents and prime factorization
Expressions and Equations	Fraction, Decimal, and Percent Equivalents	6.2.E	Number and operations. The student applies mathematical process standards to represent and use rational numbers in a variety of forms. The student is expected to: extend representations for division to include fraction notation such as $\frac{a}{b}$ represents the same number as $a \div b$ where $b \neq 0$
		6.4.E	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: represent ratios and percents with concrete models, fractions, and decimals
		6.4.F	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: represent benchmark fractions and percents such as 1%, 10%, 25%, $33\frac{1}{3}\%$ , and multiples of these values using 10 by 10 grids, strip diagrams, number lines, and numbers
		6.4.G	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: generate equivalent forms of fractions, decimals, and percents using real-world problems, including problems that involve money
		6.5.C	Proportionality. The student applies mathematical process standards to solve problems involving proportional relationships. The student is expected to: use equivalent fractions, decimals, and percents to show equal parts of the same whole

# Grade 6 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
The Number System	Integer Concepts	6.2.B	Number and operations. The student applies mathematical process standards to represent and use rational numbers in a variety of forms. The student is expected to: identify a number, its opposite, and its absolute value
		6.2.C	Number and operations. The student applies mathematical process standards to represent and use rational numbers in a variety of forms. The student is expected to: locate, compare, and order integers and rational numbers using a number line
	Integer Concepts with a Number Line	6.2.B	Number and operations. The student applies mathematical process standards to represent and use rational numbers in a variety of forms. The student is expected to: identify a number, its opposite, and its absolute value
		6.2.C	Number and operations. The student applies mathematical process standards to represent and use rational numbers in a variety of forms. The student is expected to: locate, compare, and order integers and rational numbers using a number line
	Integers in the Coordinate Plane I	6.11.A	Measurement and data. The student applies mathematical process standards to use coordinate geometry to identify locations on a plane. The student is expected to: graph points in all four quadrants using ordered pairs of rational numbers.

# Grade 6 Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
The Number System	Integers in the Coordinate Plane II	6.11.A	Measurement and data. The student applies mathematical process standards to use coordinate geometry to identify locations on a plane. The student is expected to: graph points in all four quadrants using ordered pairs of rational numbers.
	Classifying Rational Numbers	6.2.A	Number and operations. The student applies mathematical process standards to represent and use rational numbers in a variety of forms. The student is expected to: classify whole numbers, integers, and rational numbers using a visual representation such as a Venn diagram to describe relationships between sets of numbers
		6.2.C	Number and operations. The student applies mathematical process standards to represent and use rational numbers in a variety of forms. The student is expected to: locate, compare, and order integers and rational numbers using a number line
		6.2.D	Number and operations. The student applies mathematical process standards to represent and use rational numbers in a variety of forms. The student is expected to: order a set of rational numbers arising from mathematical and real-world contexts
		7.2.A	Number and operations. The student applies mathematical process standards to represent and use rational numbers in a variety of forms. The student is expected to extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of rational numbers
	Comparing Rational Numbers I	6.2.C	Number and operations. The student applies mathematical process standards to represent and use rational numbers in a variety of forms. The student is expected to: locate, compare, and order integers and rational numbers using a number line
		6.2.D	Number and operations. The student applies mathematical process standards to represent and use rational numbers in a variety of forms. The student is expected to: order a set of rational numbers arising from mathematical and real-world contexts
	Comparing Rational Numbers II	6.2.C	Number and operations. The student applies mathematical process standards to represent and use rational numbers in a variety of forms. The student is expected to: locate, compare, and order integers and rational numbers using a number line
		6.2.D	Number and operations. The student applies mathematical process standards to represent and use rational numbers in a variety of forms. The student is expected to: order a set of rational numbers arising from mathematical and real-world contexts
	Rational Numbers in the Coordinate Plane I	6.11.A	Measurement and data. The student applies mathematical process standards to use coordinate geometry to identify locations on a plane. The student is expected to: graph points in all four quadrants using ordered pairs of rational numbers.
	Rational Numbers in the Coordinate Plane II	6.11.A	Measurement and data. The student applies mathematical process standards to use coordinate geometry to identify locations on a plane. The student is expected to: graph points in all four quadrants using ordered pairs of rational numbers.

# Grade 6 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
The Number System	Absolute Value I	6.2.B	Number and operations. The student applies mathematical process standards to represent and use rational numbers in a variety of forms. The student is expected to: identify a number, its opposite, and its absolute value
	Absolute Value II	6.2.B	Number and operations. The student applies mathematical process standards to represent and use rational numbers in a variety of forms. The student is expected to: identify a number, its opposite, and its absolute value
	Adding and Subtracting Rational Numbers I	6.3.C	Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to: represent integer operations with concrete models and connect the actions with the models to standardized algorithms
		6.3.D	Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to: add, subtract, multiply, and divide integers fluently
	Adding and Subtracting Rational Numbers II	6.3.C	Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to: represent integer operations with concrete models and connect the actions with the models to standardized algorithms
		6.3.D	Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to: add, subtract, multiply, and divide integers fluently
	Multiplying and Dividing Rational Numbers	6.3.C	Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to: represent integer operations with concrete models and connect the actions with the models to standardized algorithms
		6.3.D	Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to: add, subtract, multiply, and divide integers fluently
Mixed Review Lessons	STAAR Grade 6: Review 4	6.2.D	Number and operations. The student applies mathematical process standards to represent and use rational numbers in a variety of forms. The student is expected to: order a set of rational numbers arising from mathematical and real-world contexts
		6.3.D	Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to: add, subtract, multiply, and divide integers fluently
		6.3.E	Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to: multiply and divide positive rational numbers fluently

# Grade 6 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade 6: Review 4	6.4.B	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: apply qualitative and quantitative reasoning to solve prediction and comparison of real-world problems involving ratios and rates
		6.4.G	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: generate equivalent forms of fractions, decimals, and percents using real-world problems, including problems that involve money
		6.4.H	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: convert units within a measurement system, including the use of proportions and unit rates
		6.5.B	Proportionality. The student applies mathematical process standards to solve problems involving proportional relationships. The student is expected to: solve real-world problems to find the whole given a part and the percent, to find the part given the whole and the percent, and to find the percent given the part and the whole, including the use of concrete and pictorial models
		6.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: generate equivalent numerical expressions using order of operations, including whole number exponents and prime factorization
		6.7.D	Expressions, equations, and relationships. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties
		6.8.D	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to represent relationships and solve problems. The student is expected to: determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles and volume of right rectangular prisms where dimensions are positive rational numbers
		6.10.A	Expressions, equations, and relationships. The student applies mathematical process standards to use equations and inequalities to solve problems. The student is expected to: model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts

# Grade 6 Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Expressions and Equations	Reasoning About One-Step Equations	6.10.B	Expressions, equations, and relationships. The student applies mathematical process standards to use equations and inequalities to solve problems. The student is expected to: determine if the given value(s) make(s) one-variable, one-step equations or inequalities true
	Writing and Solving One-Step Equations	6.9.A	Expressions, equations, and relationships. The student applies mathematical process standards to use equations and inequalities to represent situations. The student is expected to: write one-variable, one-step equations and inequalities to represent constraints or conditions within problems
		6.10.A	Expressions, equations, and relationships. The student applies mathematical process standards to use equations and inequalities to solve problems. The student is expected to: model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts
	Evaluating Expressions with Two Operations	6.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: generate equivalent numerical expressions using order of operations, including whole number exponents and prime factorization
	Understanding Exponents	6.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: generate equivalent numerical expressions using order of operations, including whole number exponents and prime factorization
	Evaluating Expressions and Equations with Exponents	6.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: generate equivalent numerical expressions using order of operations, including whole number exponents and prime factorization
	Identifying and Generating Equivalent Expressions	6.7.C	Expressions, equations, and relationships. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: determine if two expressions are equivalent using concrete models, pictorial models, and algebraic representations
		6.7.D	Expressions, equations, and relationships. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties
	Evaluating Expressions with the Distributive Property	6.7.D	Expressions, equations, and relationships. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties
Using the Distributive Property to Represent Real-World Situations	6.7.D	Expressions, equations, and relationships. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties	

# Grade 6 Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Measurement and Data	Volume of Rectangular Prisms II	5.4.G	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: use concrete objects and pictorial models to develop the formulas for the volume of a rectangular prism, including the special form for a cube ( $V = l \times w \times h$ , $V = s \times s \times s$ , and $V = Bh$ )
		6.8.C	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to represent relationships and solve problems. The student is expected to: write equations that represent problems related to the area of rectangles, parallelograms, trapezoids, and triangles and volume of right rectangular prisms where dimensions are positive rational numbers
		6.8.D	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to represent relationships and solve problems. The student is expected to: determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles and volume of right rectangular prisms where dimensions are positive rational numbers
Geometry	Area of Parallelograms	6.8.B	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to represent relationships and solve problems. The student is expected to: model area formulas for parallelograms, trapezoids, and triangles by decomposing and rearranging parts of these shapes
		6.8.C	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to represent relationships and solve problems. The student is expected to: write equations that represent problems related to the area of rectangles, parallelograms, trapezoids, and triangles and volume of right rectangular prisms where dimensions are positive rational numbers
		6.8.D	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to represent relationships and solve problems. The student is expected to: determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles and volume of right rectangular prisms where dimensions are positive rational numbers
	Area of Triangles	6.8.B	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to represent relationships and solve problems. The student is expected to: model area formulas for parallelograms, trapezoids, and triangles by decomposing and rearranging parts of these shapes
		6.8.C	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to represent relationships and solve problems. The student is expected to: write equations that represent problems related to the area of rectangles, parallelograms, trapezoids, and triangles and volume of right rectangular prisms where dimensions are positive rational numbers
		6.8.D	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to represent relationships and solve problems. The student is expected to: determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles and volume of right rectangular prisms where dimensions are positive rational numbers



# Grade 6 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Geometry	Area of Trapezoids and Composite Figures	6.8.B	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to represent relationships and solve problems. The student is expected to: model area formulas for parallelograms, trapezoids, and triangles by decomposing and rearranging parts of these shapes
		6.8.C	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to represent relationships and solve problems. The student is expected to: write equations that represent problems related to the area of rectangles, parallelograms, trapezoids, and triangles and volume of right rectangular prisms where dimensions are positive rational numbers
		6.8.D	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to represent relationships and solve problems. The student is expected to: determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles and volume of right rectangular prisms where dimensions are positive rational numbers
	Using Line Segments and Angles to Make Triangles	6.8.A	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to represent relationships and solve problems. The student is expected to: extend previous knowledge of triangles and their properties to include the sum of angles of a triangle, the relationship between the lengths of sides and measures of angles in a triangle, and determining when three lengths form a triangle
Mixed Review Lessons	STAAR Grade 6: Review 5	6.2.D	Number and operations. The student applies mathematical process standards to represent and use rational numbers in a variety of forms. The student is expected to: order a set of rational numbers arising from mathematical and real-world contexts
		6.3.D	Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to: add, subtract, multiply, and divide integers fluently
		6.3.E	Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to: multiply and divide positive rational numbers fluently
		6.4.B	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: apply qualitative and quantitative reasoning to solve prediction and comparison of real-world problems involving ratios and rates
		6.4.G	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: generate equivalent forms of fractions, decimals, and percents using real-world problems, including problems that involve money
		6.4.H	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: convert units within a measurement system, including the use of proportions and unit rates

# Grade 6 Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade 6: Review 5	6.5.B	Proportionality. The student applies mathematical process standards to solve problems involving proportional relationships. The student is expected to: solve real-world problems to find the whole given a part and the percent, to find the part given the whole and the percent, and to find the percent given the part and the whole, including the use of concrete and pictorial models
		6.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: generate equivalent numerical expressions using order of operations, including whole number exponents and prime factorization
		6.7.D	Expressions, equations, and relationships. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties
		6.8.D	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to represent relationships and solve problems. The student is expected to: determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles and volume of right rectangular prisms where dimensions are positive rational numbers
		6.10.A	Expressions, equations, and relationships. The student applies mathematical process standards to use equations and inequalities to solve problems. The student is expected to: model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts
		6.11.A	Measurement and data. The student applies mathematical process standards to use coordinate geometry to identify locations on a plane. The student is expected to: graph points in all four quadrants using ordered pairs of rational numbers.
		6.12.C	Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to analyze problems. The student is expected to: summarize numeric data with numerical summaries, including the mean and median (measures of center) and the range and interquartile range (IQR) (measures of spread), and use these summaries to describe the center, spread, and shape of the data distribution
		6.12.D	Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to analyze problems. The student is expected to: summarize categorical data with numerical and graphical summaries, including the mode, the percent of values in each category (relative frequency table), and the percent bar graph, and use these summaries to describe the data distribution

# Grade 6 Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Expressions and Equations	Independent and Dependent Quantities	6.6.A	Expressions, equations, and relationships. The student applies mathematical process standards to use multiple representations to describe algebraic relationships. The student is expected to: identify independent and dependent quantities from tables and graphs
		6.6.B	Expressions, equations, and relationships. The student applies mathematical process standards to use multiple representations to describe algebraic relationships. The student is expected to: write an equation that represents the relationship between independent and dependent quantities from a table
Measurement and Data	Line Plots	4.9.A	Data analysis. The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. The student is expected to: represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions
		4.9.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 data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem-and-leaf plot
		6.12.A	Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to analyze problems. The student is expected to: represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots
		6.13.A	Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to solve problems. The student is expected to: interpret numeric data summarized in dot plots, stem-and-leaf plots, histograms, and box plots
		7.6.G	Proportionality. The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. The student is expected to: solve problems using data represented in bar graphs, dot plots, and circle graphs, including part-to-whole and part-to-part comparisons and equivalents
Statistics and Probability	Measures of Spread - Range	6.12.C	Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to analyze problems. The student is expected to: summarize numeric data with numerical summaries, including the mean and median (measures of center) and the range and interquartile range (IQR) (measures of spread), and use these summaries to describe the center, spread, and shape of the data distribution
	Measures of Center - Median	6.12.C	Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to analyze problems. The student is expected to: summarize numeric data with numerical summaries, including the mean and median (measures of center) and the range and interquartile range (IQR) (measures of spread), and use these summaries to describe the center, spread, and shape of the data distribution
	Measures of Center - Mean	6.12.C	Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to analyze problems. The student is expected to: summarize numeric data with numerical summaries, including the mean and median (measures of center) and the range and interquartile range (IQR) (measures of spread), and use these summaries to describe the center, spread, and shape of the data distribution

# Grade 6 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Statistics and Probability	Summarizing Data	6.12.B	Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to analyze problems. The student is expected to: use the graphical representation of numeric data to describe the center, spread, and shape of the data distribution
		6.12.D	Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to analyze problems. The student is expected to: summarize categorical data with numerical and graphical summaries, including the mode, the percent of values in each category (relative frequency table), and the percent bar graph, and use these summaries to describe the data distribution
	Data Analysis	6.13.B	Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to solve problems. The student is expected to: distinguish between situations that yield data with and without variability
	Bar Graphs and Histograms	5.9.A	Data analysis. The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. The student is expected to: represent categorical data with bar graphs or frequency tables and numerical data, including data sets of measurements in fractions or decimals, with dot plots or stem-and-leaf plots
		5.9.C	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 data from a frequency table, dot plot, bar graph, stem-and-leaf plot, or scatterplot
		6.12.A	Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to analyze problems. The student is expected to: represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots
		6.13.A	Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to solve problems. The student is expected to: interpret numeric data summarized in dot plots, stem-and-leaf plots, histograms, and box plots
		7.6.G	Proportionality. The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. The student is expected to: solve problems using data represented in bar graphs, dot plots, and circle graphs, including part-to-whole and part-to-part comparisons and equivalents
	Stem-and-Leaf Plots	6.12.A	Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to analyze problems. The student is expected to: represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots
		6.13.A	Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to solve problems. The student is expected to: interpret numeric data summarized in dot plots, stem-and-leaf plots, histograms, and box plots

# Grade 6 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Statistics and Probability	Quartiles	6.12.C	Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to analyze problems. The student is expected to: summarize numeric data with numerical summaries, including the mean and median (measures of center) and the range and interquartile range (IQR) (measures of spread), and use these summaries to describe the center, spread, and shape of the data distribution
	Box Plots	6.12.A	Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to analyze problems. The student is expected to: represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots
		6.13.A	Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to solve problems. The student is expected to: interpret numeric data summarized in dot plots, stem-and-leaf plots, histograms, and box plots
Expressions and Equations	Introduction to the Language of Algebra	6.6.C	Expressions, equations, and relationships. The student applies mathematical process standards to use multiple representations to describe algebraic relationships. The student is expected to: represent a given situation using verbal descriptions, tables, graphs, and equations in the form $y = kx$ or $y = x + b$ .
		6.7.B	Expressions, equations, and relationships. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: distinguish between expressions and equations verbally, numerically, and algebraically
		6.9.A	Expressions, equations, and relationships. The student applies mathematical process standards to use equations and inequalities to represent situations. The student is expected to: write one-variable, one-step equations and inequalities to represent constraints or conditions within problems
	Introduction to Solving Word Problems with Algebra	6.9.A	Expressions, equations, and relationships. The student applies mathematical process standards to use equations and inequalities to represent situations. The student is expected to: write one-variable, one-step equations and inequalities to represent constraints or conditions within problems
		6.6.C	Expressions, equations, and relationships. The student applies mathematical process standards to use multiple representations to describe algebraic relationships. The student is expected to: represent a given situation using verbal descriptions, tables, graphs, and equations in the form $y = kx$ or $y = x + b$ .
		7.10.C	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations and inequalities to represent situations. The student is expected to: write a corresponding real-world problem given a one-variable, two-step equation or inequality

# Grade 6 Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Expressions and Equations	Concept of Inequalities I	6.9.A	Expressions, equations, and relationships. The student applies mathematical process standards to use equations and inequalities to represent situations. The student is expected to: write one-variable, one-step equations and inequalities to represent constraints or conditions within problems
		6.9.B	Expressions, equations, and relationships. The student applies mathematical process standards to use equations and inequalities to represent situations. The student is expected to: represent solutions for one-variable, one-step equations and inequalities on number lines
		6.9.C	Expressions, equations, and relationships. The student applies mathematical process standards to use equations and inequalities to represent situations. The student is expected to: write corresponding real-world problems given one-variable, one-step equations or inequalities
		6.10.A	Expressions, equations, and relationships. The student applies mathematical process standards to use equations and inequalities to solve problems. The student is expected to: model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts
		7.11.B	Expressions, equations, and relationships. The student applies mathematical process standards to solve one-variable equations and inequalities. The student is expected to: determine if the given value(s) make(s) one-variable, two-step equations and inequalities true
		7.10.B	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations and inequalities to represent situations. The student is expected to: represent solutions for one-variable, two-step equations and inequalities on number lines
Mixed Review Lessons	STAAR Grade 6: Review 6	6.2.D	Number and operations. The student applies mathematical process standards to represent and use rational numbers in a variety of forms. The student is expected to: order a set of rational numbers arising from mathematical and real-world contexts
		6.3.D	Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to: add, subtract, multiply, and divide integers fluently
		6.3.E	Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. The student is expected to: multiply and divide positive rational numbers fluently
		6.4.B	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: apply qualitative and quantitative reasoning to solve prediction and comparison of real-world problems involving ratios and rates
		6.4.G	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: generate equivalent forms of fractions, decimals, and percents using real-world problems, including problems that involve money

# Grade 6 Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade 6: Review 6	6.4.H	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: convert units within a measurement system, including the use of proportions and unit rates
		6.5.B	Proportionality. The student applies mathematical process standards to solve problems involving proportional relationships. The student is expected to: solve real-world problems to find the whole given a part and the percent, to find the part given the whole and the percent, and to find the percent given the part and the whole, including the use of concrete and pictorial models
		6.6.C	Expressions, equations, and relationships. The student applies mathematical process standards to use multiple representations to describe algebraic relationships. The student is expected to: represent a given situation using verbal descriptions, tables, graphs, and equations in the form $y = kx$ or $y = x + b$ .
		6.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: generate equivalent numerical expressions using order of operations, including whole number exponents and prime factorization
		6.7.D	Expressions, equations, and relationships. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to: generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties
		6.8.D	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to represent relationships and solve problems. The student is expected to: determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles and volume of right rectangular prisms where dimensions are positive rational numbers
		6.10.A	Expressions, equations, and relationships. The student applies mathematical process standards to use equations and inequalities to solve problems. The student is expected to: model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts
		6.11.A	Measurement and data. The student applies mathematical process standards to use coordinate geometry to identify locations on a plane. The student is expected to: graph points in all four quadrants using ordered pairs of rational numbers.
		6.12.C	Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to analyze problems. The student is expected to: summarize numeric data with numerical summaries, including the mean and median (measures of center) and the range and interquartile range (IQR) (measures of spread), and use these summaries to describe the center, spread, and shape of the data distribution

# Grade 6 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade 6: Review 6	6.12.D	Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to analyze problems. The student is expected to: summarize categorical data with numerical and graphical summaries, including the mode, the percent of values in each category (relative frequency table), and the percent bar graph, and use these summaries to describe the data distribution
		6.13.A	Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to solve problems. The student is expected to: interpret numeric data summarized in dot plots, stem-and-leaf plots, histograms, and box plots



# Grade 6 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Financial Literacy	Methods of Payment	5.10.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 advantages and disadvantages of different methods of payment, including check, credit card, debit card, and electronic payments
		6.14.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: compare the features and costs of a checking account and a debit card offered by different local financial institutions
		6.14.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: distinguish between debit cards and credit cards
		8.12.E	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: identify and explain the advantages and disadvantages of different payment methods
	Paying for College I	6.14.G	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: explain various methods to pay for college, including through savings, grants, scholarships, student loans, and work-study
	Credit Reports	6.14.D	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: explain why it is important to establish a positive credit history
		6.14.E	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: describe the information in a credit report and how long it is retained
		6.14.F	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: describe the value of credit reports to borrowers and to lenders

# Grade 6 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Financial Literacy	Balancing a Budget	5.10.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: describe actions that might be taken to balance a budget when expenses exceed income
		5.10.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: develop a system for keeping and using financial records
		5.10.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: balance a simple budget
		6.14.C	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: balance a check register that includes deposits, withdrawals, and transfers

# Grade 7

## Texas Learning Pathway

# Grade 7 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Number and Operations- Fractions	Understanding Products with Fractions	7.3.A	Number and operations. The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to: add, subtract, multiply, and divide rational numbers fluently
	Multiplying Fractions by Whole Numbers to Solve Multistep Problems	7.3.A	Number and operations. The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to: add, subtract, multiply, and divide rational numbers fluently
The Number System	Operations with Fractions - Mixed Practice	7.3.A	Number and operations. The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to: add, subtract, multiply, and divide rational numbers fluently
		7.3.B	Number and operations. The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to: apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers
Number and Operations in Base Ten	Using Reasoning and Estimation to Calculate with Decimals	7.3.A	Number and operations. The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to: add, subtract, multiply, and divide rational numbers fluently
		7.3.B	Number and operations. The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to: apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers
	Calculating with Decimals	7.3.A	Number and operations. The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to: add, subtract, multiply, and divide rational numbers fluently
		7.3.B	Number and operations. The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to: apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers
Mixed Review Lessons	STAAR Grade 7: Review 1	7.3.B	Number and operations. The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to: apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers
		7.11.A	Expressions, equations, and relationships. The student applies mathematical process standards to solve one-variable equations and inequalities. The student is expected to: model and solve one-variable, two-step equations and inequalities

# Grade 7 Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Ratios and Proportional Relationships	Calculations with Percent	7.4.D	Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to: solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease, and financial literacy problems
		7.13.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: calculate the sales tax for a given purchase and calculate income tax for earned wages
	Converting Units of Measure II	6.4.H	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: convert units within a measurement system, including the use of proportions and unit rates
		7.4.E	Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to: convert between measurement systems, including the use of proportions and the use of unit rates
	Solving Problems with Unit Rates	7.4.B	Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to: calculate unit rates from rates in mathematical and real-world problems
		7.4.B	Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to: calculate unit rates from rates in mathematical and real-world problems
		7.4.D	Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to: solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease, and financial literacy problems
	Distance, Rate, and Time	7.4.A	Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to: represent constant rates of change in mathematical and real-world problems given pictorial, tabular, verbal, numeric, graphical, and algebraic representations, including $d = rt$
		7.4.D	Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to: solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease, and financial literacy problems

# Grade 7 Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Ratios and Proportional Relationships	Proportion Concepts	6.4.A	Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. The student is expected to: compare two rules verbally, numerically, graphically, and symbolically in the form of $y = ax$ or $y = x + a$ in order to differentiate between additive and multiplicative relationships
		6.5.A	Proportionality. The student applies mathematical process standards to solve problems involving proportional relationships. The student is expected to: represent mathematical and real-world problems involving ratios and rates using scale factors, tables, graphs, and proportions
		7.4.A	Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to: represent constant rates of change in mathematical and real-world problems given pictorial, tabular, verbal, numeric, graphical, and algebraic representations, including $d = rt$
		7.4.C	Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to: determine the constant of proportionality ( $k = y/x$ ) within mathematical and real-world problems
	Proportional Relationships in Tables and Equations	7.4.A	Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to: represent constant rates of change in mathematical and real-world problems given pictorial, tabular, verbal, numeric, graphical, and algebraic representations, including $d = rt$
	Using Proportions to Solve Problems	7.4.A	Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to: represent constant rates of change in mathematical and real-world problems given pictorial, tabular, verbal, numeric, graphical, and algebraic representations, including $d = rt$
		7.4.C	Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to: determine the constant of proportionality ( $k = y/x$ ) within mathematical and real-world problems
	Proportions in Scale Drawings	7.5.A	Proportionality. The student applies mathematical process standards to use geometry to describe or solve problems involving proportional relationships. The student is expected to: generalize the critical attributes of similarity, including ratios within and between similar shapes
		7.5.C	Proportionality. The student applies mathematical process standards to use geometry to describe or solve problems involving proportional relationships. The student is expected to: solve mathematical and real-world problems involving similar shape and scale drawings

# Grade 7 Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Ratios and Proportional Relationships	Introduction to Similar Figures	7.5.A	Proportionality. The student applies mathematical process standards to use geometry to describe or solve problems involving proportional relationships. The student is expected to: generalize the critical attributes of similarity, including ratios within and between similar shapes
		7.5.C	Proportionality. The student applies mathematical process standards to use geometry to describe or solve problems involving proportional relationships. The student is expected to: solve mathematical and real-world problems involving similar shape and scale drawings
	Using Similar Figures to Solve Problems	7.5.A	Proportionality. The student applies mathematical process standards to use geometry to describe or solve problems involving proportional relationships. The student is expected to: generalize the critical attributes of similarity, including ratios within and between similar shapes
		7.5.C	Proportionality. The student applies mathematical process standards to use geometry to describe or solve problems involving proportional relationships. The student is expected to: solve mathematical and real-world problems involving similar shape and scale drawings
	Similarity	7.5.A	Proportionality. The student applies mathematical process standards to use geometry to describe or solve problems involving proportional relationships. The student is expected to: generalize the critical attributes of similarity, including ratios within and between similar shapes
		8.3.A	Proportionality. The student applies mathematical process standards to use proportional relationships to describe dilations. The student is expected to: generalize that the ratio of corresponding sides of similar shapes are proportional, including a shape and its dilation
	Percent and Percent Change	7.4.D	Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to: solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease, and financial literacy problems
	Percent and Percent Error	7.4.D	Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to: solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease, and financial literacy problems
	Simple Interest	7.13.E	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 and compare simple interest and compound interest earnings
		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
8.12.D		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 and compare simple interest and compound interest earnings	

# Grade 7 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade 7: Review 2	7.3.B	Number and operations. The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to: apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers
		7.4.A	Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to: represent constant rates of change in mathematical and real-world problems given pictorial, tabular, verbal, numeric, graphical, and algebraic representations, including $d = rt$
		7.4.D	Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to: solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease, and financial literacy problems
		7.11.A	Expressions, equations, and relationships. The student applies mathematical process standards to solve one-variable equations and inequalities. The student is expected to: model and solve one-variable, two-step equations and inequalities
Expressions and Equations	Combining Like Terms	7.10.A	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations and inequalities to represent situations. The student is expected to: write one-variable, two-step equations and inequalities to represent constraints or conditions within problems
		7.11.A	Expressions, equations, and relationships. The student applies mathematical process standards to solve one-variable equations and inequalities. The student is expected to: model and solve one-variable, two-step equations and inequalities
	Introduction to Solving Word Problems with Algebra	6.6.C	Expressions, equations, and relationships. The student applies mathematical process standards to use multiple representations to describe algebraic relationships. The student is expected to: represent a given situation using verbal descriptions, tables, graphs, and equations in the form $y = kx$ or $y = x + b$ .
		6.9.A	Expressions, equations, and relationships. The student applies mathematical process standards to use equations and inequalities to represent situations. The student is expected to: write one-variable, one-step equations and inequalities to represent constraints or conditions within problems
		7.10.C	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations and inequalities to represent situations. The student is expected to: write a corresponding real-world problem given a one-variable, two-step equation or inequality



# Grade 7 Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Expressions and Equations	Concept of Inequalities I	6.9.A	Expressions, equations, and relationships. The student applies mathematical process standards to use equations and inequalities to represent situations. The student is expected to: write one-variable, one-step equations and inequalities to represent constraints or conditions within problems
		6.9.B	Expressions, equations, and relationships. The student applies mathematical process standards to use equations and inequalities to represent situations. The student is expected to: represent solutions for one-variable, one-step equations and inequalities on number lines
		6.9.C	Expressions, equations, and relationships. The student applies mathematical process standards to use equations and inequalities to represent situations. The student is expected to: write corresponding real-world problems given one-variable, one-step equations or inequalities
		6.10.A	Expressions, equations, and relationships. The student applies mathematical process standards to use equations and inequalities to solve problems. The student is expected to: model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts
		7.10.B	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations and inequalities to represent situations. The student is expected to: represent solutions for one-variable, two-step equations and inequalities on number lines
		7.11.B	Expressions, equations, and relationships. The student applies mathematical process standards to solve one-variable equations and inequalities. The student is expected to: determine if the given value(s) make(s) one-variable, two-step equations and inequalities true
	Solving and Modeling Two-Step Problems	7.10.A	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations and inequalities to represent situations. The student is expected to: write one-variable, two-step equations and inequalities to represent constraints or conditions within problems
		7.11.A	Expressions, equations, and relationships. The student applies mathematical process standards to solve one-variable equations and inequalities. The student is expected to: model and solve one-variable, two-step equations and inequalities
	Solving Equations with the Distributive Property	7.10.A	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations and inequalities to represent situations. The student is expected to: write one-variable, two-step equations and inequalities to represent constraints or conditions within problems
		7.11.A	Expressions, equations, and relationships. The student applies mathematical process standards to solve one-variable equations and inequalities. The student is expected to: model and solve one-variable, two-step equations and inequalities
		AI.5.A	solve linear equations in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides

# Grade 7 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Expressions and Equations	Solving Equations with the Distributive Property in Context	7.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to represent linear relationships using multiple representations. The student is expected to: represent linear relationships using verbal descriptions, tables, graphs, and equations that simplify to the form $y = mx + b$ .
		7.10.A	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations and inequalities to represent situations. The student is expected to: write one-variable, two-step equations and inequalities to represent constraints or conditions within problems
		7.11.A	Expressions, equations, and relationships. The student applies mathematical process standards to solve one-variable equations and inequalities. The student is expected to: model and solve one-variable, two-step equations and inequalities
		AI.5.A	solve linear equations in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides
Number and Operations- Fractions	Understanding and Multiplying with Negative Mixed Numbers	7.3.B	Number and operations. The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to: apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers
The Number System	Classifying Rational Numbers	6.2.A	Number and operations. The student applies mathematical process standards to represent and use rational numbers in a variety of forms. The student is expected to: classify whole numbers, integers, and rational numbers using a visual representation such as a Venn diagram to describe relationships between sets of numbers
		6.2.C	Number and operations. The student applies mathematical process standards to represent and use rational numbers in a variety of forms. The student is expected to: locate, compare, and order integers and rational numbers using a number line
		6.2.D	Number and operations. The student applies mathematical process standards to represent and use rational numbers in a variety of forms. The student is expected to: order a set of rational numbers arising from mathematical and real-world contexts
		7.2.A	Number and operations. The student applies mathematical process standards to represent and use rational numbers in a variety of forms. The student is expected to extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of rational numbers
	Writing and Interpreting Expressions with Rational Numbers	7.3.B	Number and operations. The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to: apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers
		7.3.A	Number and operations. The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to: add, subtract, multiply, and divide rational numbers fluently

# Grade 7 Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
The Number System	Operations with Rational Numbers I	7.3.A	Number and operations. The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to: add, subtract, multiply, and divide rational numbers fluently
		7.3.B	Number and operations. The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to: apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers
	Operations with Rational Numbers II	7.3.A	Number and operations. The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to: add, subtract, multiply, and divide rational numbers fluently
		7.3.B	Number and operations. The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to: apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers
Expressions and Equations	Solving Word Problems with Algebra	7.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to represent linear relationships using multiple representations. The student is expected to: represent linear relationships using verbal descriptions, tables, graphs, and equations that simplify to the form $y = mx + b$ .
		7.10.A	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations and inequalities to represent situations. The student is expected to: write one-variable, two-step equations and inequalities to represent constraints or conditions within problems
	Concept of Inequalities II	7.10.C	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations and inequalities to represent situations. The student is expected to: write a corresponding real-world problem given a one-variable, two-step equation or inequality
		7.11.A	Expressions, equations, and relationships. The student applies mathematical process standards to solve one-variable equations and inequalities. The student is expected to: model and solve one-variable, two-step equations and inequalities

# Grade 7 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade 7: Review 3	7.3.B	Number and operations. The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to: apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers
		7.4.A	Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to: represent constant rates of change in mathematical and real-world problems given pictorial, tabular, verbal, numeric, graphical, and algebraic representations, including $d = rt$
		7.4.D	Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to: solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease, and financial literacy problems
		7.5.C	Proportionality. The student applies mathematical process standards to use geometry to describe or solve problems involving proportional relationships. The student is expected to: solve mathematical and real-world problems involving similar shape and scale drawings
		7.11.A	Expressions, equations, and relationships. The student applies mathematical process standards to solve one-variable equations and inequalities. The student is expected to: model and solve one-variable, two-step equations and inequalities
Geometry	Circumference	7.5.B	Proportionality. The student applies mathematical process standards to use geometry to describe or solve problems involving proportional relationships. The student is expected to: describe $\pi$ as the ratio of the circumference of a circle to its diameter
		7.8.C	Expressions, equations, and relationships. The student applies mathematical process standards to develop geometric relationships with volume. The student is expected to: use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas
		7.9.B	Expressions, equations, and relationships. The student applies mathematical process standards to solve geometric problems. The student is expected to: determine the circumference and area of circles
	Area of Circles	7.8.C	Expressions, equations, and relationships. The student applies mathematical process standards to develop geometric relationships with volume. The student is expected to: use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas
		7.9.B	Expressions, equations, and relationships. The student applies mathematical process standards to solve geometric problems. The student is expected to: determine the circumference and area of circles

# Grade 7 Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Geometry	Area of Complex Composite Figures	7.9.C	Expressions, equations, and relationships. The student applies mathematical process standards to solve geometric problems. The student is expected to: determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles
	Surface Area and Volume of Rectangular Prisms	7.9.A	Expressions, equations, and relationships. The student applies mathematical process standards to solve geometric problems. The student is expected to: solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids
		7.9.D	Expressions, equations, and relationships. The student applies mathematical process standards to solve geometric problems. The student is expected to: solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net
		8.7.B	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to: use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders
		G.11.C	apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure
		G.11.D	apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure
	Surface Area of Pyramids	7.9.D	Expressions, equations, and relationships. The student applies mathematical process standards to solve geometric problems. The student is expected to: solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net
		G.11.C	apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure
	Angle Pairs	7.11.C	Expressions, equations, and relationships. The student applies mathematical process standards to solve one-variable equations and inequalities. The student is expected to: write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships

# Grade 7 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Geometry	Angles in a Polygon	6.8.A	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to represent relationships and solve problems. The student is expected to: extend previous knowledge of triangles and their properties to include the sum of angles of a triangle, the relationship between the lengths of sides and measures of angles in a triangle, and determining when three lengths form a triangle
		7.11.C	Expressions, equations, and relationships. The student applies mathematical process standards to solve one-variable equations and inequalities. The student is expected to: write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships
		G.6.D	verify theorems about the relationships in triangles, including proof of the Pythagorean Theorem, the sum of interior angles, base angles of isosceles triangles, midsegments, and medians, and apply these relationships to solve problems
	Volume of Pyramids and Cones	7.8.B	Expressions, equations, and relationships. The student applies mathematical process standards to develop geometric relationships with volume. The student is expected to: explain verbally and symbolically the relationship between the volume of a triangular prism and a triangular pyramid having both congruent bases and heights and connect that relationship to the formulas
		7.8.A	Expressions, equations, and relationships. The student applies mathematical process standards to develop geometric relationships with volume. The student is expected to: model the relationship between the volume of a rectangular prism and a rectangular pyramid having both congruent bases and heights and connect that relationship to the formulas
		7.9.A	Expressions, equations, and relationships. The student applies mathematical process standards to solve geometric problems. The student is expected to: solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids
		8.6.B	Expressions, equations, and relationships. The student applies mathematical process standards to develop mathematical relationships and make connections to geometric formulas. The student is expected to: model the relationship between the volume of a cylinder and a cone having both congruent bases and heights and connect that relationship to the formulas
		8.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to: solve problems involving the volume of cylinders, cones, and spheres
		G.11.D	apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure

# Grade 7 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade 7: Review 4	7.3.B	Number and operations. The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to: apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers
		7.4.A	Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to: represent constant rates of change in mathematical and real-world problems given pictorial, tabular, verbal, numeric, graphical, and algebraic representations, including $d = rt$
		7.4.D	Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to: solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease, and financial literacy problems
		7.5.C	Proportionality. The student applies mathematical process standards to use geometry to describe or solve problems involving proportional relationships. The student is expected to: solve mathematical and real-world problems involving similar shape and scale drawings
		7.9.A	Expressions, equations, and relationships. The student applies mathematical process standards to solve geometric problems. The student is expected to: solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids
		7.9.B	Expressions, equations, and relationships. The student applies mathematical process standards to solve geometric problems. The student is expected to: determine the circumference and area of circles
		7.9.C	Expressions, equations, and relationships. The student applies mathematical process standards to solve geometric problems. The student is expected to: determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles
		7.11.A	Expressions, equations, and relationships. The student applies mathematical process standards to solve one-variable equations and inequalities. The student is expected to: model and solve one-variable, two-step equations and inequalities

# Grade 7 Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Measurement and Data	Line Plots	4.9.A	Data analysis. The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. The student is expected to: represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions
		4.9.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 data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem-and-leaf plot
		6.12.A	Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to analyze problems. The student is expected to: represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots
		6.13.A	Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to solve problems. The student is expected to: interpret numeric data summarized in dot plots, stem-and-leaf plots, histograms, and box plots
		7.6.G	Proportionality. The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. The student is expected to: solve problems using data represented in bar graphs, dot plots, and circle graphs, including part-to-whole and part-to-part comparisons and equivalents
Statistics and Probability	Bar Graphs and Histograms	5.9.A	Data analysis. The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. The student is expected to: represent categorical data with bar graphs or frequency tables and numerical data, including data sets of measurements in fractions or decimals, with dot plots or stem-and-leaf plots
		5.9.C	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 data from a frequency table, dot plot, bar graph, stem-and-leaf plot, or scatterplot
		6.12.A	Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to analyze problems. The student is expected to: represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots
		6.13.A	Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to solve problems. The student is expected to: interpret numeric data summarized in dot plots, stem-and-leaf plots, histograms, and box plots
		7.6.G	Proportionality. The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. The student is expected to: solve problems using data represented in bar graphs, dot plots, and circle graphs, including part-to-whole and part-to-part comparisons and equivalents



# Grade 7 Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Statistics and Probability	Circle Graphs	7.6.G	Proportionality. The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. The student is expected to: solve problems using data represented in bar graphs, dot plots, and circle graphs, including part-to-whole and part-to-part comparisons and equivalents
	Sampling	7.6.F	Proportionality. The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. The student is expected to: use data from a random sample to make inferences about a population
		7.12.C	Measurement and data. The student applies mathematical process standards to use statistical representations to analyze data. The student is expected to: compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations
		7.12.B	Measurement and data. The student applies mathematical process standards to use statistical representations to analyze data. The student is expected to: use data from a random sample to make inferences about a population
		8.11.C	Measurement and data. The student applies mathematical process standards to use statistical procedures to describe data. The student is expected to: simulate generating random samples of the same size from a population with known characteristics to develop the notion of a random sample being representative of the population from which it was selected
	Comparing Data	7.12.A	Measurement and data. The student applies mathematical process standards to use statistical representations to analyze data. The student is expected to: compare two groups of numeric data using comparative dot plots or box plots by comparing their shapes, centers, and spreads
	Simple Probability	7.6.A	Proportionality. The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. The student is expected to: represent sample spaces for simple and compound events using lists and tree diagrams
		7.6.E	Proportionality. The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. The student is expected to: find the probabilities of a simple event and its complement and describe the relationship between the two
		7.6.I	Proportionality. The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. The student is expected to: determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces
	Compound Probability	7.6.I	Proportionality. The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. The student is expected to: determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces

# Grade 7 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Statistics and Probability	Simulations of Simple and Compound Events	7.6.B	Proportionality. The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. The student is expected to: select and use different simulations to represent simple and compound events with and without technology
		7.6.I	Proportionality. The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. The student is expected to: determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces
	Making Predictions	7.6.C	Proportionality. The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. The student is expected to: make predictions and determine solutions using experimental data for simple and compound events
		7.6.D	Proportionality. The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. The student is expected to: make predictions and determine solutions using theoretical probability for simple and compound events
		7.6.H	Proportionality. The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. The student is expected to: solve problems using qualitative and quantitative predictions and comparisons from simple experiments
Mixed Review Lessons	STAAR Grade 7: Review 5	7.3.B	Number and operations. The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to: apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers
		7.4.A	Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to: represent constant rates of change in mathematical and real-world problems given pictorial, tabular, verbal, numeric, graphical, and algebraic representations, including $d = rt$
		7.5.C	Proportionality. The student applies mathematical process standards to use geometry to describe or solve problems involving proportional relationships. The student is expected to: solve mathematical and real-world problems involving similar shape and scale drawings
		7.4.D	Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to: solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease, and financial literacy problems
		7.6.G	Proportionality. The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. The student is expected to: solve problems using data represented in bar graphs, dot plots, and circle graphs, including part-to-whole and part-to-part comparisons and equivalents

# Grade 7 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade 7: Review 5	7.6.H	Proportionality. The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. The student is expected to: solve problems using qualitative and quantitative predictions and comparisons from simple experiments
		7.6.I	Proportionality. The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. The student is expected to: determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces
		7.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to represent linear relationships using multiple representations. The student is expected to: represent linear relationships using verbal descriptions, tables, graphs, and equations that simplify to the form $y = mx + b$ .
		7.9.A	Expressions, equations, and relationships. The student applies mathematical process standards to solve geometric problems. The student is expected to: solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids
		7.9.B	Expressions, equations, and relationships. The student applies mathematical process standards to solve geometric problems. The student is expected to: determine the circumference and area of circles
		7.9.C	Expressions, equations, and relationships. The student applies mathematical process standards to solve geometric problems. The student is expected to: determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles
		7.11.A	Expressions, equations, and relationships. The student applies mathematical process standards to solve one-variable equations and inequalities. The student is expected to: model and solve one-variable, two-step equations and inequalities
		7.12.A	Measurement and data. The student applies mathematical process standards to use statistical representations to analyze data. The student is expected to: compare two groups of numeric data using comparative dot plots or box plots by comparing their shapes, centers, and spreads
Financial Literacy	Creating a Budget	7.13.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: identify the components of a personal budget, including income; planned savings for college, retirement, and emergencies; taxes; and fixed and variable expenses, and calculate what percentage each category comprises of the total budget
		7.13.D	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: use a family budget estimator to determine the minimum household budget and average hourly wage needed for a family to meet its basic needs in the student's city or another large city nearby

# Grade 8

## Texas Learning Pathway

# Grade 8 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Ratios and Proportional Relationships	Interpreting Unit Rates on Graphs	6.5.A	Proportionality. The student applies mathematical process standards to solve problems involving proportional relationships. The student is expected to: represent mathematical and real-world problems involving ratios and rates using scale factors, tables, graphs, and proportions
		7.4.A	Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to: represent constant rates of change in mathematical and real-world problems given pictorial, tabular, verbal, numeric, graphical, and algebraic representations, including $d = rt$
		8.4.B	Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to: graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship
	Interpreting Points on Graphs of Proportional Relationships	8.4.B	Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to: graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship
Expressions and Equations	Solving Equations with the Variable on Both Sides	8.8.A	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations or inequalities in problem situations. The student is expected to: write one-variable equations or inequalities with variables on both sides that represent problems using rational number coefficients and constants
		8.8.B	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations or inequalities in problem situations. The student is expected to: write a corresponding real-world problem when given a one-variable equation or inequality with variables on both sides of the equal sign using rational number coefficients and constants
		8.8.C	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations or inequalities in problem situations. The student is expected to: model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants
		AI.5.A	solve linear equations in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides
	Analyzing Solution Sets to Linear Equations with the Variable on Both Sides	8.8.B	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations or inequalities in problem situations. The student is expected to: write a corresponding real-world problem when given a one-variable equation or inequality with variables on both sides of the equal sign using rational number coefficients and constants

# Grade 8 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Expressions and Equations	Analyzing Solution Sets to Linear Equations with the Variable on Both Sides	8.8.C	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations or inequalities in problem situations. The student is expected to: model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants
Functions	Interpreting Graphs of Real-World Situations	6.6.A	Expressions, equations, and relationships. The student applies mathematical process standards to use multiple representations to describe algebraic relationships. The student is expected to: identify independent and dependent quantities from tables and graphs
		6.6.C	Expressions, equations, and relationships. The student applies mathematical process standards to use multiple representations to describe algebraic relationships. The student is expected to: represent a given situation using verbal descriptions, tables, graphs, and equations in the form $y = kx$ or $y = x + b$ .
		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 $y = kx$
		8.5.B	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 non-proportional situations with tables, graphs, and equations in the form of $y = mx + b$ , where $b \neq 0$
		8.5.G	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: identify functions using sets of ordered pairs, tables, mappings, and graphs
Ratios and Proportional Relationships	Similarity	7.5.A	Proportionality. The student applies mathematical process standards to use geometry to describe or solve problems involving proportional relationships. The student is expected to: generalize the critical attributes of similarity, including ratios within and between similar shapes
		8.3.A	Proportionality. The student applies mathematical process standards to use proportional relationships to describe dilations. The student is expected to: generalize that the ratio of corresponding sides of similar shapes are proportional, including a shape and its dilation

# Grade 8 Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade 8: Review 1	8.4.B	Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to: graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship
		8.4.C	Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to: use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems
		8.5.G	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: identify functions using sets of ordered pairs, tables, mappings, and graphs
		8.5.I	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: write an equation in the form $y = mx + b$ to model a linear relationship between two quantities using verbal, numerical, tabular, and graphical representations
		8.12.D	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 and compare simple interest and compound interest earnings
Interpreting Functions	Function Notation II	8.5.G	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: identify functions using sets of ordered pairs, tables, mappings, and graphs
Expressions and Equations	Interpreting Slope	8.4.B	Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to: graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship
		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 $y = kx$
		AI.3.A	determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including $y = mx + b$ , $Ax + By = C$ , and $y - y_1 = m(x - x_1)$
		AI.3.B	calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems
	Slope	8.4.A	Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to: use similar right triangles to develop an understanding that slope, $m$ , given as the rate comparing the change in y-values to the change in x-values, $(y_2 - y_1) / (x_2 - x_1)$ , is the same for any two points $(x_1, y_1)$ and $(x_2, y_2)$ on the same line

# Grade 8 Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Expressions and Equations	Slope	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 $y = kx$
		AI.3.A	determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including $y = mx + b$ , $Ax + By = C$ , and $y - y_1 = m(x - x_1)$
		AI.3.B	calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems
Functions	Slope-Intercept Form	8.4.C	Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to: use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems
		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 $y = kx$
		8.5.B	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 non-proportional situations with tables, graphs, and equations in the form of $y = mx + b$ , where $b \neq 0$
		8.5.I	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: write an equation in the form $y = mx + b$ to model a linear relationship between two quantities using verbal, numerical, tabular, and graphical representations
		AI.2.B	write linear equations in two variables in various forms, including $y = mx + b$ , $Ax + By = C$ , and $y - y_1 = m(x - x_1)$ , given one point and the slope and given two points
		AI.3.A	determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including $y = mx + b$ , $Ax + By = C$ , and $y - y_1 = m(x - x_1)$
		AI.3.B	calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems



# Grade 8 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Building Functions	Direct Variation	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 $y = kx$
		8.5.E	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: solve problems involving direct variation
		8.5.F	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: distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form $y = kx$ or $y = mx + b$ , where $b \neq 0$
		8.5.H	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: identify examples of proportional and non-proportional functions that arise from mathematical and real-world problems
		AI.2.D	write and solve equations involving direct variation
Statistics and Probability	Comparing Linear and Nonlinear Data	8.5.C	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: contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation
		8.5.D	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: use a trend line that approximates the linear relationship between bivariate sets of data to make predictions
		8.11.A	Measurement and data. The student applies mathematical process standards to use statistical procedures to describe data. The student is expected to: construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data

# Grade 8 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade 8: Review 2	8.4.B	Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to: graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship
		8.4.C	Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to: use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems
		8.5.G	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: identify functions using sets of ordered pairs, tables, mappings, and graphs
		8.5.I	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: write an equation in the form $y = mx + b$ to model a linear relationship between two quantities using verbal, numerical, tabular, and graphical representations
		8.12.D	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 and compare simple interest and compound interest earnings
Expressions and Equations	Solving a System of Linear Equations Graphically	8.9.A	Expressions, equations, and relationships. The student applies mathematical process standards to use multiple representations to develop foundational concepts of simultaneous linear equations. The student is expected to identify and verify the values of $x$ and $y$ that simultaneously satisfy two linear equations in the form $y = mx + b$ from the intersections of the graphed equations
		AI.3.F	graph systems of two linear equations in two variables on the coordinate plane and determine the solutions if they exist
		AI.3.G	estimate graphically the solutions to systems of two linear equations with two variables in real-world problems
Expressions and Equations	Understanding Square and Cube Roots	8.2.B	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: approximate the value of an irrational number, including $\pi$ and square roots of numbers less than 225, and locate that rational number approximation on a number line
The Number System	Classifying and Ordering Real Numbers	8.2.A	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: extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of real numbers
		8.2.D	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: order a set of real numbers arising from mathematical and real-world contexts

# Grade 8 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
The Number System	Approximating Values of Irrational Numbers	8.2.B	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: approximate the value of an irrational number, including $\pi$ and square roots of numbers less than 225, and locate that rational number approximation on a number line
Expressions and Equations	Interpreting Numbers Written in Scientific Notation	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
Mixed Review Lessons	STAAR Grade 8: Review 3	8.2.D	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: order a set of real numbers arising from mathematical and real-world contexts
		8.4.B	Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to: graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship
		8.4.C	Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to: use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems
		8.5.G	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: identify functions using sets of ordered pairs, tables, mappings, and graphs
		8.5.I	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: write an equation in the form $y = mx + b$ to model a linear relationship between two quantities using verbal, numerical, tabular, and graphical representations
		8.8.C	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations or inequalities in problem situations. The student is expected to: model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants
		8.12.D	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 and compare simple interest and compound interest earnings

# Grade 8 Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Geometry	Surface Area and Volume of Rectangular Prisms	7.9.A	Expressions, equations, and relationships. The student applies mathematical process standards to solve geometric problems. The student is expected to: solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids
		7.9.D	Expressions, equations, and relationships. The student applies mathematical process standards to solve geometric problems. The student is expected to: solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net
		8.7.B	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to: use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders
		G.11.C	apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure
		G.11.D	apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure
	Surface Area of Cylinders	8.7.B	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to: use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders
		G.11.C	apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure
	Volume of Cylinders	8.6.A	Expressions, equations, and relationships. The student applies mathematical process standards to develop mathematical relationships and make connections to geometric formulas. The student is expected to: describe the volume formula $V = Bh$ of a cylinder in terms of its base area and its height
		8.6.B	Expressions, equations, and relationships. The student applies mathematical process standards to develop mathematical relationships and make connections to geometric formulas. The student is expected to: model the relationship between the volume of a cylinder and a cone having both congruent bases and heights and connect that relationship to the formulas
		8.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to: solve problems involving the volume of cylinders, cones, and spheres
		G.11.D	apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure

# Grade 8 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Geometry	Volume of Pyramids and Cones	7.8.A	Expressions, equations, and relationships. The student applies mathematical process standards to develop geometric relationships with volume. The student is expected to: model the relationship between the volume of a rectangular prism and a rectangular pyramid having both congruent bases and heights and connect that relationship to the formulas
		7.8.B	Expressions, equations, and relationships. The student applies mathematical process standards to develop geometric relationships with volume. The student is expected to: explain verbally and symbolically the relationship between the volume of a triangular prism and a triangular pyramid having both congruent bases and heights and connect that relationship to the formulas
		7.9.A	Expressions, equations, and relationships. The student applies mathematical process standards to solve geometric problems. The student is expected to: solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids
		8.6.B	Expressions, equations, and relationships. The student applies mathematical process standards to develop mathematical relationships and make connections to geometric formulas. The student is expected to: model the relationship between the volume of a cylinder and a cone having both congruent bases and heights and connect that relationship to the formulas
		8.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to: solve problems involving the volume of cylinders, cones, and spheres
		G.11.D	apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure
	Volume of Spheres	8.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to: solve problems involving the volume of cylinders, cones, and spheres
		G.11.D	apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure
	Volume of Composite Solids	8.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to: solve problems involving the volume of cylinders, cones, and spheres
		G.11.D	apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure

# Grade 8 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Geometry	Parallel Lines and Transversals	7.11.C	Expressions, equations, and relationships. The student applies mathematical process standards to solve one-variable equations and inequalities. The student is expected to: write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships
		8.8.D	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations or inequalities in problem situations. The student is expected to: use informal arguments to establish facts about the angle sum and exterior angle of triangles, the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles
Statistics and Probability	Deviation from the Mean	8.11.B	Measurement and data. The student applies mathematical process standards to use statistical procedures to describe data. The student is expected to: determine the mean absolute deviation and use this quantity as a measure of the average distance data are from the mean using a data set of no more than 10 data points
	Sampling	7.6.F	Proportionality. The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. The student is expected to: use data from a random sample to make inferences about a population
		7.12.B	Measurement and data. The student applies mathematical process standards to use statistical representations to analyze data. The student is expected to: use data from a random sample to make inferences about a population
		7.12.C	Measurement and data. The student applies mathematical process standards to use statistical representations to analyze data. The student is expected to: compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations
		8.11.C	Measurement and data. The student applies mathematical process standards to use statistical procedures to describe data. The student is expected to: simulate generating random samples of the same size from a population with known characteristics to develop the notion of a random sample being representative of the population from which it was selected

# Grade 8 Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade 8: Review 4	8.2.D	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: order a set of real numbers arising from mathematical and real-world contexts
		8.4.B	Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to: graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship
		8.4.C	Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to: use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems
		8.5.I	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: write an equation in the form $y = mx + b$ to model a linear relationship between two quantities using verbal, numerical, tabular, and graphical representations
		8.5.G	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: identify functions using sets of ordered pairs, tables, mappings, and graphs
		8.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to: solve problems involving the volume of cylinders, cones, and spheres
		8.7.B	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to: use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders
		8.8.C	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations or inequalities in problem situations. The student is expected to: model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants
		8.12.D	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 and compare simple interest and compound interest earnings

# Grade 8 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Geometry	Understanding the Pythagorean Theorem	8.6.C	Expressions, equations, and relationships. The student applies mathematical process standards to develop mathematical relationships and make connections to geometric formulas. The student is expected to: use models and diagrams to explain the Pythagorean theorem
		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
	Pythagorean Theorem - Hypotenuse	8.6.C	Expressions, equations, and relationships. The student applies mathematical process standards to develop mathematical relationships and make connections to geometric formulas. The student is expected to: use models and diagrams to explain the Pythagorean theorem
		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
	Pythagorean Theorem - Legs	8.6.C	Expressions, equations, and relationships. The student applies mathematical process standards to develop mathematical relationships and make connections to geometric formulas. The student is expected to: use models and diagrams to explain the Pythagorean theorem
		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
	Pythagorean Theorem - Mixed Problems	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
		G.9.B	apply the relationships in special right triangles $30^{\circ}$ - $60^{\circ}$ - $90^{\circ}$ and $45^{\circ}$ - $45^{\circ}$ - $90^{\circ}$ and the Pythagorean theorem, including Pythagorean triples, to solve problems
	Pythagorean Theorem - Distance Formula	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
		8.7.D	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to: determine the distance between two points on a coordinate plane using the Pythagorean Theorem
	Translations	8.10.A	Two-dimensional shapes. The student applies mathematical process standards to develop transformational geometry concepts. The student is expected to: generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane



# Grade 8 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Geometry	Reflections	8.10.A	Two-dimensional shapes. The student applies mathematical process standards to develop transformational geometry concepts. The student is expected to: generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane
	Rotations	8.10.A	Two-dimensional shapes. The student applies mathematical process standards to develop transformational geometry concepts. The student is expected to: generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane
	Composition of Transformations	8.10.C	Two-dimensional shapes. The student applies mathematical process standards to develop transformational geometry concepts. The student is expected to: explain the effect of translations, reflections over the x- or y-axis, and rotations limited to $90^\circ$ , $180^\circ$ , $270^\circ$ , and $360^\circ$ as applied to two-dimensional shapes on a coordinate plane using an algebraic representation
	Dilations	8.3.A	Proportionality. The student applies mathematical process standards to use proportional relationships to describe dilations. The student is expected to: generalize that the ratio of corresponding sides of similar shapes are proportional, including a shape and its dilation
		8.3.B	Proportionality. The student applies mathematical process standards to use proportional relationships to describe dilations. The student is expected to: compare and contrast the attributes of a shape and its dilation(s) on a coordinate plane
		8.3.C	Proportionality. The student applies mathematical process standards to use proportional relationships to describe dilations. The student is expected to: use an algebraic representation to explain the effect of a given positive rational scale factor applied to two-dimensional figures on a coordinate plane with the origin as the center of dilation
		8.10.D	Two-dimensional shapes. The student applies mathematical process standards to develop transformational geometry concepts. The student is expected to: model the effect on linear and area measurements of dilated two-dimensional shapes
	Congruence	8.10.A	Two-dimensional shapes. The student applies mathematical process standards to develop transformational geometry concepts. The student is expected to: generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane
		8.10.B	Two-dimensional shapes. The student applies mathematical process standards to develop transformational geometry concepts. The student is expected to: differentiate between transformations that preserve congruence and those that do not

# Grade 8 Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Ratios and Proportional Relationships	Simple Interest	7.13.E	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 and compare simple interest and compound interest earnings
		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
		8.12.D	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 and compare simple interest and compound interest earnings
Mixed Review Lessons	STAAR Grade 8: Review 5	8.2.D	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: order a set of real numbers arising from mathematical and real-world contexts
		8.3.C	Proportionality. The student applies mathematical process standards to use proportional relationships to describe dilations. The student is expected to: use an algebraic representation to explain the effect of a given positive rational scale factor applied to two-dimensional figures on a coordinate plane with the origin as the center of dilation
		8.4.B	Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to: graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship
		8.4.C	Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to: use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems
		8.5.G	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: identify functions using sets of ordered pairs, tables, mappings, and graphs
		8.5.I	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: write an equation in the form $y = mx + b$ to model a linear relationship between two quantities using verbal, numerical, tabular, and graphical representations
		8.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to: solve problems involving the volume of cylinders, cones, and spheres

# Grade 8 Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade 8: Review 5	8.7.B	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to: use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders
		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
		8.8.C	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations or inequalities in problem situations. The student is expected to: model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants
		8.10.C	Two-dimensional shapes. The student applies mathematical process standards to develop transformational geometry concepts. The student is expected to: explain the effect of translations, reflections over the x- or y-axis, and rotations limited to 90°, 180°, 270°, and 360° as applied to two-dimensional shapes on a coordinate plane using an algebraic representation
		8.12.D	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 and compare simple interest and compound interest earnings

# Grade 8 Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Financial Literacy	Cost of Loans	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
		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 loans, under various rates of interest and over different periods using an online calculator
	Methods of Payment	5.10.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 advantages and disadvantages of different methods of payment, including check, credit card, debit card, and electronic payments
		6.14.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: distinguish between debit cards and credit cards
		8.12.E	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: identify and explain the advantages and disadvantages of different payment methods
	Paying for College II	8.12.G	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: estimate the cost of a two-year and four-year college education, including family contribution, and devise a periodic savings plan for accumulating the money needed to contribute to the total cost of attendance for at least the first year of college

# Alegbra Readiness

## Texas Learning Pathway

# Algebra Readiness Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Ratios and Proportional Relationships	Interpreting Unit Rates on Graphs	6.5.A	Proportionality. The student applies mathematical process standards to solve problems involving proportional relationships. The student is expected to: represent mathematical and real-world problems involving ratios and rates using scale factors, tables, graphs, and proportions
		7.4.A	Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to: represent constant rates of change in mathematical and real-world problems given pictorial, tabular, verbal, numeric, graphical, and algebraic representations, including $d = rt$
		8.4.B	Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to: graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship
	Interpreting Points on Graphs of Proportional Relationships	8.4.B	Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to: graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship
Expressions and Equations	Solving Equations with the Variable on Both Sides	8.8.A	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations or inequalities in problem situations. The student is expected to: write one-variable equations or inequalities with variables on both sides that represent problems using rational number coefficients and constants
		8.8.B	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations or inequalities in problem situations. The student is expected to: write a corresponding real-world problem when given a one-variable equation or inequality with variables on both sides of the equal sign using rational number coefficients and constants
		8.8.C	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations or inequalities in problem situations. The student is expected to: model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants
		AI.5.A	solve linear equations in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides
	Analyzing Solution Sets to Linear Equations with the Variable on Both Sides	8.8.B	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations or inequalities in problem situations. The student is expected to: write a corresponding real-world problem when given a one-variable equation or inequality with variables on both sides of the equal sign using rational number coefficients and constants

# Algebra Readiness Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Expressions and Equations	Analyzing Solution Sets to Linear Equations with the Variable on Both Sides	8.8.C	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations or inequalities in problem situations. The student is expected to: model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants
Functions	Interpreting Graphs of Real-World Situations	6.6.A	Expressions, equations, and relationships. The student applies mathematical process standards to use multiple representations to describe algebraic relationships. The student is expected to: identify independent and dependent quantities from tables and graphs
		6.6.C	Expressions, equations, and relationships. The student applies mathematical process standards to use multiple representations to describe algebraic relationships. The student is expected to: represent a given situation using verbal descriptions, tables, graphs, and equations in the form $y = kx$ or $y = x + b$ .
		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 $y = kx$
		8.5.B	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 non-proportional situations with tables, graphs, and equations in the form of $y = mx + b$ , where $b \neq 0$
		8.5.G	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: identify functions using sets of ordered pairs, tables, mappings, and graphs
Ratios and Proportional Relationships	Similarity	7.5.A	Proportionality. The student applies mathematical process standards to use geometry to describe or solve problems involving proportional relationships. The student is expected to: generalize the critical attributes of similarity, including ratios within and between similar shapes
		8.3.A	Proportionality. The student applies mathematical process standards to use proportional relationships to describe dilations. The student is expected to: generalize that the ratio of corresponding sides of similar shapes are proportional, including a shape and its dilation

# Algebra Readiness Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade 8: Review 1	8.4.B	Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to: graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship
		8.4.C	Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to: use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems
		8.5.G	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: identify functions using sets of ordered pairs, tables, mappings, and graphs
		8.5.I	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: write an equation in the form $y = mx + b$ to model a linear relationship between two quantities using verbal, numerical, tabular, and graphical representations
		8.12.D	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 and compare simple interest and compound interest earnings
Interpreting Functions	Function Notation II	8.5.G	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: identify functions using sets of ordered pairs, tables, mappings, and graphs
Expressions and Equations	Interpreting Slope	8.4.B	Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to: graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship
		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 $y = kx$
		AI.3.A	determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including $y = mx + b$ , $Ax + By = C$ , and $y - y_1 = m(x - x_1)$
		AI.3.B	calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems
	Slope	8.4.A	Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to: use similar right triangles to develop an understanding that slope, $m$ , given as the rate comparing the change in y-values to the change in x-values, $(y_2 - y_1) / (x_2 - x_1)$ , is the same for any two points $(x_1, y_1)$ and $(x_2, y_2)$ on the same line



# Algebra Readiness Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Expressions and Equations	Slope	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 $y = kx$
		AI.3.A	determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including $y = mx + b$ , $Ax + By = C$ , and $y - y_1 = m(x - x_1)$
		AI.3.B	calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems
Functions	Slope-Intercept Form	8.4.C	Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to: use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems
		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 $y = kx$
		8.5.B	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 non-proportional situations with tables, graphs, and equations in the form of $y = mx + b$ , where $b \neq 0$
		8.5.I	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: write an equation in the form $y = mx + b$ to model a linear relationship between two quantities using verbal, numerical, tabular, and graphical representations
		AI.2.B	write linear equations in two variables in various forms, including $y = mx + b$ , $Ax + By = C$ , and $y - y_1 = m(x - x_1)$ , given one point and the slope and given two points
		AI.3.A	determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including $y = mx + b$ , $Ax + By = C$ , and $y - y_1 = m(x - x_1)$
		AI.3.B	calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems

# Algebra Readiness Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Building Functions	Direct Variation	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 $y = kx$
		8.5.E	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: solve problems involving direct variation
		8.5.F	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: distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form $y = kx$ or $y = mx + b$ , where $b \neq 0$
		8.5.H	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: identify examples of proportional and non-proportional functions that arise from mathematical and real-world problems
		AI.2.D	write and solve equations involving direct variation
Statistics and Probability	Comparing Linear and Nonlinear Data	8.5.C	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: contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation
		8.5.D	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: use a trend line that approximates the linear relationship between bivariate sets of data to make predictions
		8.11.A	Measurement and data. The student applies mathematical process standards to use statistical procedures to describe data. The student is expected to: construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data

# Algebra Readiness Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade 8: Review 2	8.4.B	Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to: graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship
		8.4.C	Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to: use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems
		8.5.G	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: identify functions using sets of ordered pairs, tables, mappings, and graphs
		8.5.I	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: write an equation in the form $y = mx + b$ to model a linear relationship between two quantities using verbal, numerical, tabular, and graphical representations
		8.12.D	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 and compare simple interest and compound interest earnings
Expressions and Equations	Solving a System of Linear Equations Graphically	8.9.A	Expressions, equations, and relationships. The student applies mathematical process standards to use multiple representations to develop foundational concepts of simultaneous linear equations. The student is expected to identify and verify the values of $x$ and $y$ that simultaneously satisfy two linear equations in the form $y = mx + b$ from the intersections of the graphed equations
		AI.3.F	graph systems of two linear equations in two variables on the coordinate plane and determine the solutions if they exist
		AI.3.G	estimate graphically the solutions to systems of two linear equations with two variables in real-world problems
	Understanding Square and Cube Roots	8.2.B	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: approximate the value of an irrational number, including $\pi$ and square roots of numbers less than 225, and locate that rational number approximation on a number line

# Algebra Readiness Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
The Number System	Classifying and Ordering Real Numbers	8.2.A	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: extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of real numbers
		8.2.D	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: order a set of real numbers arising from mathematical and real-world contexts
	Approximating Values of Irrational Numbers	8.2.B	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: approximate the value of an irrational number, including $\pi$ and square roots of numbers less than 225, and locate that rational number approximation on a number line
Expressions and Equations	Interpreting Numbers Written in Scientific Notation	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

# Algebra Readiness Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade 8: Review 3	8.2.D	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: order a set of real numbers arising from mathematical and real-world contexts
		8.4.B	Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to: graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship
		8.4.C	Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to: use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems
		8.5.G	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: identify functions using sets of ordered pairs, tables, mappings, and graphs
		8.5.I	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: write an equation in the form $y = mx + b$ to model a linear relationship between two quantities using verbal, numerical, tabular, and graphical representations
		8.8.C	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations or inequalities in problem situations. The student is expected to: model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants
		8.12.D	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 and compare simple interest and compound interest earnings

# Algebra Readiness Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Geometry	Surface Area and Volume of Rectangular Prisms	7.9.A	Expressions, equations, and relationships. The student applies mathematical process standards to solve geometric problems. The student is expected to: solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids
		7.9.D	Expressions, equations, and relationships. The student applies mathematical process standards to solve geometric problems. The student is expected to: solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net
		8.7.B	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to: use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders
		G.11.C	apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure
		G.11.D	apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure
	Surface Area of Cylinders	8.7.B	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to: use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders
		G.11.C	apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure
	Volume of Cylinders	8.6.A	Expressions, equations, and relationships. The student applies mathematical process standards to develop mathematical relationships and make connections to geometric formulas. The student is expected to: describe the volume formula $V = Bh$ of a cylinder in terms of its base area and its height
		8.6.B	Expressions, equations, and relationships. The student applies mathematical process standards to develop mathematical relationships and make connections to geometric formulas. The student is expected to: model the relationship between the volume of a cylinder and a cone having both congruent bases and heights and connect that relationship to the formulas
		8.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to: solve problems involving the volume of cylinders, cones, and spheres
		G.11.D	apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure

# Algebra Readiness Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Geometry	Volume of Pyramids and Cones	7.8.A	Expressions, equations, and relationships. The student applies mathematical process standards to develop geometric relationships with volume. The student is expected to: model the relationship between the volume of a rectangular prism and a rectangular pyramid having both congruent bases and heights and connect that relationship to the formulas
		7.8.B	Expressions, equations, and relationships. The student applies mathematical process standards to develop geometric relationships with volume. The student is expected to: explain verbally and symbolically the relationship between the volume of a triangular prism and a triangular pyramid having both congruent bases and heights and connect that relationship to the formulas
		7.9.A	Expressions, equations, and relationships. The student applies mathematical process standards to solve geometric problems. The student is expected to: solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids
		8.6.B	Expressions, equations, and relationships. The student applies mathematical process standards to develop mathematical relationships and make connections to geometric formulas. The student is expected to: model the relationship between the volume of a cylinder and a cone having both congruent bases and heights and connect that relationship to the formulas
		8.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to: solve problems involving the volume of cylinders, cones, and spheres
		G.11.D	apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure
	Volume of Spheres	8.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to: solve problems involving the volume of cylinders, cones, and spheres
		G.11.D	apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure
	Volume of Composite Solids	8.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to: solve problems involving the volume of cylinders, cones, and spheres
		G.11.D	apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure

# Algebra Readiness Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Geometry	Parallel Lines and Transversals	7.11.C	Expressions, equations, and relationships. The student applies mathematical process standards to solve one-variable equations and inequalities. The student is expected to: write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships
		8.8.D	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations or inequalities in problem situations. The student is expected to: use informal arguments to establish facts about the angle sum and exterior angle of triangles, the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles
Statistics and Probability	Deviation from the Mean	8.11.B	Measurement and data. The student applies mathematical process standards to use statistical procedures to describe data. The student is expected to: determine the mean absolute deviation and use this quantity as a measure of the average distance data are from the mean using a data set of no more than 10 data points
	Sampling	7.6.F	Proportionality. The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. The student is expected to: use data from a random sample to make inferences about a population
		7.12.B	Measurement and data. The student applies mathematical process standards to use statistical representations to analyze data. The student is expected to: use data from a random sample to make inferences about a population
		7.12.C	Measurement and data. The student applies mathematical process standards to use statistical representations to analyze data. The student is expected to: compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations
		8.11.C	Measurement and data. The student applies mathematical process standards to use statistical procedures to describe data. The student is expected to: simulate generating random samples of the same size from a population with known characteristics to develop the notion of a random sample being representative of the population from which it was selected



# Algebra Readiness Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade 8: Review 4	8.2.D	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: order a set of real numbers arising from mathematical and real-world contexts
		8.4.B	Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to: graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship
		8.4.C	Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to: use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems
		8.5.I	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: write an equation in the form $y = mx + b$ to model a linear relationship between two quantities using verbal, numerical, tabular, and graphical representations
		8.5.G	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: identify functions using sets of ordered pairs, tables, mappings, and graphs
		8.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to: solve problems involving the volume of cylinders, cones, and spheres
		8.7.B	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to: use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders
		8.8.C	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations or inequalities in problem situations. The student is expected to: model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants
		8.12.D	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 and compare simple interest and compound interest earnings

# Algebra Readiness Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Geometry	Understanding the Pythagorean Theorem	8.6.C	Expressions, equations, and relationships. The student applies mathematical process standards to develop mathematical relationships and make connections to geometric formulas. The student is expected to: use models and diagrams to explain the Pythagorean theorem
		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
	Pythagorean Theorem - Hypotenuse	8.6.C	Expressions, equations, and relationships. The student applies mathematical process standards to develop mathematical relationships and make connections to geometric formulas. The student is expected to: use models and diagrams to explain the Pythagorean theorem
		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
	Pythagorean Theorem - Legs	8.6.C	Expressions, equations, and relationships. The student applies mathematical process standards to develop mathematical relationships and make connections to geometric formulas. The student is expected to: use models and diagrams to explain the Pythagorean theorem
		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
	Pythagorean Theorem - Mixed Problems	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
		G.9.B	apply the relationships in special right triangles $30^\circ$ - $60^\circ$ - $90^\circ$ and $45^\circ$ - $45^\circ$ - $90^\circ$ and the Pythagorean theorem, including Pythagorean triples, to solve problems
	Pythagorean Theorem - Distance Formula	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
		8.7.D	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to: determine the distance between two points on a coordinate plane using the Pythagorean Theorem
	Translations	8.10.A	Two-dimensional shapes. The student applies mathematical process standards to develop transformational geometry concepts. The student is expected to: generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane

# Algebra Readiness Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Geometry	Reflections	8.10.A	Two-dimensional shapes. The student applies mathematical process standards to develop transformational geometry concepts. The student is expected to: generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane
	Rotations	8.10.A	Two-dimensional shapes. The student applies mathematical process standards to develop transformational geometry concepts. The student is expected to: generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane
	Composition of Transformations	8.10.C	Two-dimensional shapes. The student applies mathematical process standards to develop transformational geometry concepts. The student is expected to: explain the effect of translations, reflections over the x- or y-axis, and rotations limited to $90^\circ$ , $180^\circ$ , $270^\circ$ , and $360^\circ$ as applied to two-dimensional shapes on a coordinate plane using an algebraic representation
	Dilations	8.3.A	Proportionality. The student applies mathematical process standards to use proportional relationships to describe dilations. The student is expected to: generalize that the ratio of corresponding sides of similar shapes are proportional, including a shape and its dilation
		8.3.B	Proportionality. The student applies mathematical process standards to use proportional relationships to describe dilations. The student is expected to: compare and contrast the attributes of a shape and its dilation(s) on a coordinate plane
		8.3.C	Proportionality. The student applies mathematical process standards to use proportional relationships to describe dilations. The student is expected to: use an algebraic representation to explain the effect of a given positive rational scale factor applied to two-dimensional figures on a coordinate plane with the origin as the center of dilation
		8.10.D	Two-dimensional shapes. The student applies mathematical process standards to develop transformational geometry concepts. The student is expected to: model the effect on linear and area measurements of dilated two-dimensional shapes
	Congruence	8.10.A	Two-dimensional shapes. The student applies mathematical process standards to develop transformational geometry concepts. The student is expected to: generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane
		8.10.B	Two-dimensional shapes. The student applies mathematical process standards to develop transformational geometry concepts. The student is expected to: differentiate between transformations that preserve congruence and those that do not

# Algebra Readiness Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Ratios and Proportional Relationships	Simple Interest	7.13.E	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 and compare simple interest and compound interest earnings
		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
		8.12.D	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 and compare simple interest and compound interest earnings
Mixed Review Lessons	STAAR Grade 8: Review 5	8.2.D	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: order a set of real numbers arising from mathematical and real-world contexts
		8.3.C	Proportionality. The student applies mathematical process standards to use proportional relationships to describe dilations. The student is expected to: use an algebraic representation to explain the effect of a given positive rational scale factor applied to two-dimensional figures on a coordinate plane with the origin as the center of dilation
		8.4.B	Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to: graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship
		8.4.C	Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to: use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems
		8.5.G	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: identify functions using sets of ordered pairs, tables, mappings, and graphs
		8.5.I	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: write an equation in the form $y = mx + b$ to model a linear relationship between two quantities using verbal, numerical, tabular, and graphical representations
		8.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to: solve problems involving the volume of cylinders, cones, and spheres

# Algebra Readiness Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade 8: Review 5	8.7.B	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to: use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders
		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
		8.8.C	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations or inequalities in problem situations. The student is expected to: model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants
		8.10.C	Two-dimensional shapes. The student applies mathematical process standards to develop transformational geometry concepts. The student is expected to: explain the effect of translations, reflections over the x- or y-axis, and rotations limited to $90^\circ$ , $180^\circ$ , $270^\circ$ , and $360^\circ$ as applied to two-dimensional shapes on a coordinate plane using an algebraic representation
		8.12.D	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 and compare simple interest and compound interest earnings

# Algebra Readiness Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Financial Literacy	Cost of Loans	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
		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 loans, under various rates of interest and over different periods using an online calculator
	Methods of Payment	5.10.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 advantages and disadvantages of different methods of payment, including check, credit card, debit card, and electronic payments
		6.14.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: distinguish between debit cards and credit cards
		8.12.E	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: identify and explain the advantages and disadvantages of different payment methods
	Paying for College II	8.12.G	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: estimate the cost of a two-year and four-year college education, including family contribution, and devise a periodic savings plan for accumulating the money needed to contribute to the total cost of attendance for at least the first year of college

# Alegbra I

## Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Expressions and Equations	Solving Equations with the Distributive Property	7.10.A	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations and inequalities to represent situations. The student is expected to: write one-variable, two-step equations and inequalities to represent constraints or conditions within problems
		7.11.A	Expressions, equations, and relationships. The student applies mathematical process standards to solve one-variable equations and inequalities. The student is expected to: model and solve one-variable, two-step equations and inequalities
		AI.5.A	solve linear equations in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides
	Solving Equations with the Distributive Property in Context	7.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to represent linear relationships using multiple representations. The student is expected to: represent linear relationships using verbal descriptions, tables, graphs, and equations that simplify to the form $y = mx + b$ .
		7.10.A	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations and inequalities to represent situations. The student is expected to: write one-variable, two-step equations and inequalities to represent constraints or conditions within problems
		7.11.A	Expressions, equations, and relationships. The student applies mathematical process standards to solve one-variable equations and inequalities. The student is expected to: model and solve one-variable, two-step equations and inequalities
		AI.5.A	solve linear equations in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides
	Analyzing Solution Sets to Linear Equations with the Variable on Both Sides	8.8.A	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations or inequalities in problem situations. The student is expected to: write one-variable equations or inequalities with variables on both sides that represent problems using rational number coefficients and constants
		8.8.B	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations or inequalities in problem situations. The student is expected to: write a corresponding real-world problem when given a one-variable equation or inequality with variables on both sides of the equal sign using rational number coefficients and constants
		8.8.C	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations or inequalities in problem situations. The student is expected to: model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants



Unit	Lesson Name	Standard Code	Standard Description
Expressions and Equations	Solving Equations with the Variable on Both Sides	8.8.A	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations or inequalities in problem situations. The student is expected to: write one-variable equations or inequalities with variables on both sides that represent problems using rational number coefficients and constants
		8.8.B	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations or inequalities in problem situations. The student is expected to: write a corresponding real-world problem when given a one-variable equation or inequality with variables on both sides of the equal sign using rational number coefficients and constants
		8.8.C	Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations or inequalities in problem situations. The student is expected to: model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants
		AI.5.A	solve linear equations in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides
	Interpreting Slope	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 $y = kx$
		AI.3.A	determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including $y = mx + b$ , $Ax + By = C$ , and $y - y_1 = m(x - x_1)$
		AI.3.B	calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems
	Slope	8.4.A	Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to: use similar right triangles to develop an understanding that slope, $m$ , given as the rate comparing the change in $y$ -values to the change in $x$ -values, $(y_2 - y_1) / (x_2 - x_1)$ , is the same for any two points $(x_1, y_1)$ and $(x_2, y_2)$ on the same line
		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 $y = kx$
		8.5.B	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 non-proportional situations with tables, graphs, and equations in the form of $y = mx + b$ , where $b \neq 0$
8.5.G		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: identify functions using sets of ordered pairs, tables, mappings, and graphs	

# Algebra I Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Expressions and Equations	Slope	8.5.I	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: write an equation in the form $y = mx + b$ to model a linear relationship between two quantities using verbal, numerical, tabular, and graphical representations
		AI.3.A	determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including $y = mx + b$ , $Ax + By = C$ , and $y - y_1 = m(x - x_1)$
		AI.3.B	calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems
Functions	Slope-Intercept Form	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 $y = kx$
		8.5.B	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 non-proportional situations with tables, graphs, and equations in the form of $y = mx + b$ , where $b \neq 0$
		8.5.G	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: identify functions using sets of ordered pairs, tables, mappings, and graphs
		AI.2.B	write linear equations in two variables in various forms, including $y = mx + b$ , $Ax + By = C$ , and $y - y_1 = m(x - x_1)$ , given one point and the slope and given two points
		AI.3.A	determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including $y = mx + b$ , $Ax + By = C$ , and $y - y_1 = m(x - x_1)$
		AI.3.B	calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems
		Point-Slope Form	AI.2.B
	AI.3.A		determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including $y = mx + b$ , $Ax + By = C$ , and $y - y_1 = m(x - x_1)$
	AI.3.B		calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems
	AI.3.B		calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems
	Mixed Review Lessons	STAAR Grade A1: Review 1	AI.3.B
AI.5.A			solve linear equations in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides

# Algebra I Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Building Functions	Direct Variation	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 $y = kx$
		8.5.E	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: solve problems involving direct variation
		8.5.F	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: distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form $y = kx$ or $y = mx + b$ , where $b \neq 0$
		8.5.H	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: identify examples of proportional and non-proportional functions that arise from mathematical and real-world problems
		AI.2.D	write and solve equations involving direct variation
Creating Equations	Writing and Solving Linear Equations in One Variable	AI.5.A	solve linear equations in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides
	Writing and Graphing Linear Equations in Two or More Variables	AI.2.C	write linear equations in two variables given a table of values, a graph, and a verbal description
	Equations of Parallel and Perpendicular Lines	AI.2.E	write the equation of a line that contains a given point and is parallel to a given line
		AI.2.F	write the equation of a line that contains a given point and is perpendicular to a given line
		AI.2.G	write an equation of a line that is parallel or perpendicular to the X or Y axis and determine whether the slope of the line is zero or undefined
Reasoning with Equations and Inequalities	Solving Linear Inequalities in One Variable	AI.5.B	solve linear inequalities in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides

# Algebra I Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Expressions and Equations	Solving a System of Linear Equations Graphically	8.9.A	Expressions, equations, and relationships. The student applies mathematical process standards to use multiple representations to develop foundational concepts of simultaneous linear equations. The student is expected to identify and verify the values of $x$ and $y$ that simultaneously satisfy two linear equations in the form $y = mx + b$ from the intersections of the graphed equations
		AI.3.F	graph systems of two linear equations in two variables on the coordinate plane and determine the solutions if they exist
		AI.3.G	estimate graphically the solutions to systems of two linear equations with two variables in real-world problems
Reasoning with Equations and Inequalities	Solving Systems of Linear Equations	AI.2.I	write systems of two linear equations given a table of values, a graph, and a verbal description
		AI.5.C	solve systems of two linear equations with two variables for mathematical and real-world problems
	Graphing Linear Inequalities and Systems of Linear Inequalities in Real-World Situations	AI.2.H	write linear inequalities in two variables given a table of values, a graph, and a verbal description
		AI.3.D	graph the solution set of linear inequalities in two variables on the coordinate plane
		AI.3.H	graph the solution set of systems of two linear inequalities in two variables on the coordinate plane
Mixed Review Lessons	STAAR Grade A1: Review 2	AI.2.C	write linear equations in two variables given a table of values, a graph, and a verbal description
		AI.2.I	write systems of two linear equations given a table of values, a graph, and a verbal description
		AI.3.B	calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems
		AI.3.D	graph the solution set of linear inequalities in two variables on the coordinate plane
		AI.5.A	solve linear equations in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides
		AI.5.C	solve systems of two linear equations with two variables for mathematical and real-world problems
		AI.9.C	write exponential functions in the form $f(x) = ab$ to the $x$ power (where $b$ is a rational number) to describe problems arising from mathematical and real-world situations, including growth and decay
		AI.9.D	graph exponential functions that model growth and decay and identify key features, including $y$ -intercept and asymptote, in mathematical and real-world problems
Interpreting Functions	Function Notation I	AI.12.B	evaluate functions, expressed in function notation, given one or more elements in their domains
	Function Notation II	AI.12.A	decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

# Algebra I Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Building Functions	Transformations of Graphs of Linear Functions	AI.3.E	determine the effects on the graph of the parent function $f(x) = x$ when $f(x)$ is replaced by $af(x)$ , $f(x) + d$ , $f(x - c)$ , $f(bx)$ for specific values of $a$ , $b$ , $c$ , and $d$
	Writing Arithmetic Sequences Explicitly and Recursively	AI.12.C	identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes
		AI.12.D	write a formula for the $n$ th term of arithmetic and geometric sequences, given the value of several of their terms
	Writing Geometric Sequences Using an Explicit Formula	AI.12.D	write a formula for the $n$ th term of arithmetic and geometric sequences, given the value of several of their terms
	Writing Geometric Sequences Recursively	AI.12.C	identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes
Interpreting Functions	Sequences as Functions	AI.12.C	identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes
		AI.12.D	write a formula for the $n$ th term of arithmetic and geometric sequences, given the value of several of their terms
Interpreting Categorical and Quantitative Data	Fitting Functions to Data	AI.4.C	write, with and without technology, linear functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems
		AI.9.E	write, using technology, exponential functions that provide a reasonable fit to data and make predictions for real-world problems
Arithmetic with Polynomials and Rational Expressions	Adding and Subtracting Polynomials	AI.10.A	add and subtract polynomials of degree one and degree two
	Multiplying and Dividing Monomials	AI.10.B	multiply polynomials of degree one and degree two
		AI.10.C	determine the quotient of a polynomial of degree one and polynomial of degree two when divided by a polynomial of degree one and polynomial of degree two when the degree of the divisor does not exceed the degree of the dividend
Multiplying Polynomials	AI.10.B	multiply polynomials of degree one and degree two	
Seeing Structure in Expressions	Factoring Expressions	AI.10.D	rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property
		AI.10.E	factor, if possible, trinomials with real factors in the form $ax^2 + bx + c$ , including perfect square trinomials of degree two

# Algebra I Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
The Real Number System	Using Rational Exponents to Rewrite Expressions	AI.11.B	simplify numeric and algebraic expressions using the laws of exponents, including integral and rational exponents
Interpreting Functions	Rewriting and Interpreting Exponential Functions in Terms of Context	AI.9.B	interpret the meaning of the values of $a$ and $b$ in exponential functions of the form $f(x) = ab$ to the $x$ power in real-world problems
Mixed Review Lessons	STAAR Grade A1: Review 3	AI.2.A	determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities
		AI.2.C	write linear equations in two variables given a table of values, a graph, and a verbal description
		AI.2.I	write systems of two linear equations given a table of values, a graph, and a verbal description
		AI.3.B	calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems
		AI.3.C	graph linear functions on the coordinate plane and identify key features, including $x$ -intercept, $y$ -intercept, zeros, and slope, in mathematical and real-world problems
		AI.3.D	graph the solution set of linear inequalities in two variables on the coordinate plane
		AI.5.A	solve linear equations in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides
		AI.5.C	solve systems of two linear equations with two variables for mathematical and real-world problems
		AI.9.C	write exponential functions in the form $f(x) = ab$ to the $x$ power (where $b$ is a rational number) to describe problems arising from mathematical and real-world situations, including growth and decay
		AI.9.D	graph exponential functions that model growth and decay and identify key features, including $y$ -intercept and asymptote, in mathematical and real-world problems
Building Functions	Writing Quadratic Functions from a Context	AI.6.B	write equations of quadratic functions given the vertex and another point on the graph, write the equation in vertex form ( $f(x) = a(x - h)^2 + k$ ), and rewrite the equation from vertex form to standard form ( $f(x) = ax^2 + bx + c$ )
	Writing Quadratic Functions From Their Graphs	AI.6.C	write quadratic functions when given real solutions and graphs of their related equations

Unit	Lesson Name	Standard Code	Standard Description
Interpreting Functions	Sketching Graphs of Quadratic Functions in Context	AI.6.A	determine the domain and range of quadratic functions and represent the domain and range using inequalities
		AI.7.A	graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry
	Sketching and Transforming Graphs of Quadratic Functions from Symbolic Representations	AI.6.A	determine the domain and range of quadratic functions and represent the domain and range using inequalities
		AI.7.A	graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry
		AI.7.C	determine the effects on the graph of the parent function $f(x) = x^2$ when $f(x)$ is replaced by $af(x)$ , $f(x) + d$ , $f(x - c)$ , $f(bx)$ for specific values of $a$ , $b$ , $c$ , and $d$
Seeing Structure in Expressions	Factoring Quadratic Expressions	AI.7.B	describe the relationship between the linear factors of quadratic expressions and the zeros of their associated quadratic functions
		AI.8.A	solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula
		AI.10.E	factor, if possible, trinomials with real factors in the form $ax^2 + bx + c$ , including perfect square trinomials of degree two
		AI.10.F	decide if a binomial can be written as the difference of two squares and, if possible, use the structure of a difference of two squares to rewrite the binomial
Interpreting Functions	Rewriting Quadratics to Reveal Their Structure	AI.6.B	write equations of quadratic functions given the vertex and another point on the graph, write the equation in vertex form ( $f(x) = a(x - h)^2 + k$ ), and rewrite the equation from vertex form to standard form ( $f(x) = ax^2 + bx + c$ )
Reasoning with Equations and Inequalities	Problem Solving with Quadratic Functions	AI.8.A	solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula
		AI.11.A	simplify numerical radical expressions involving square roots
	Using the Quadratic Formula	AI.8.A	solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula

# Algebra I Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade A1: Review 4	AI.2.A	determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities
		AI.2.C	write linear equations in two variables given a table of values, a graph, and a verbal description
		AI.2.I	write systems of two linear equations given a table of values, a graph, and a verbal description
		AI.3.B	calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems
		AI.3.C	graph linear functions on the coordinate plane and identify key features, including x-intercept, y-intercept, zeros, and slope, in mathematical and real-world problems
		AI.3.D	graph the solution set of linear inequalities in two variables on the coordinate plane
		AI.5.A	solve linear equations in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides
		AI.5.C	solve systems of two linear equations with two variables for mathematical and real-world problems
		AI.6.A	determine the domain and range of quadratic functions and represent the domain and range using inequalities
		AI.7.A	graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry
		AI.8.A	solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula
		AI.9.C	write exponential functions in the form $f(x) = ab$ to the $x$ power (where $b$ is a rational number) to describe problems arising from mathematical and real-world situations, including growth and decay
		AI.9.D	graph exponential functions that model growth and decay and identify key features, including y-intercept and asymptote, in mathematical and real-world problems
AI.10.E	factor, if possible, trinomials with real factors in the form $ax^2 + bx + c$ , including perfect square trinomials of degree two		
Seeing Structure in Expressions	Interpreting the Structure of Linear and Exponential Expressions	AI.9.B	interpret the meaning of the values of $a$ and $b$ in exponential functions of the form $f(x) = ab$ to the $x$ power in real-world problems



# Algebra I Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Creating Equations	Modeling Exponential Relationships with Equations, Inequalities, and Graphs	AI.9.C	write exponential functions in the form $f(x) = ab$ to the $x$ power (where $b$ is a rational number) to describe problems arising from mathematical and real-world situations, including growth and decay
		AI.9.D	graph exponential functions that model growth and decay and identify key features, including $y$ -intercept and asymptote, in mathematical and real-world problems
	Solving Literal Equations	AI.12.E	solve mathematic and scientific formulas, and other literal equations, for a specified variable
Interpreting Functions	Interpreting Graphs of Linear and Exponential Functions in Context	AI.9.B	interpret the meaning of the values of $a$ and $b$ in exponential functions of the form $f(x) = ab$ to the $x$ power in real-world problems
	Sketching Graphs of Linear and Exponential Functions from a Context	AI.3.C	graph linear functions on the coordinate plane and identify key features, including $x$ -intercept, $y$ -intercept, zeros, and slope, in mathematical and real-world problems
		AI.9.D	graph exponential functions that model growth and decay and identify key features, including $y$ -intercept and asymptote, in mathematical and real-world problems
	Understanding the Domain of a Function	AI.2.A	determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities
		AI.9.A	determine the domain and range of exponential functions of the form $f(x) = ab$ to the $x$ power and represent the domain and range using inequalities
Rate of Change for Linear and Exponential Functions	AI.3.B	calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems	
Building Functions	Writing Linear and Exponential Functions from a Context	AI.2.C	write linear equations in two variables given a table of values, a graph, and a verbal description
		AI.9.C	write exponential functions in the form $f(x) = ab$ to the $x$ power (where $b$ is a rational number) to describe problems arising from mathematical and real-world situations, including growth and decay
Linear, Quadratic, and Exponential Models	Writing Linear and Exponential Functions Based on Different Representations	AI.2.C	write linear equations in two variables given a table of values, a graph, and a verbal description
		AI.9.C	write exponential functions in the form $f(x) = ab$ to the $x$ power (where $b$ is a rational number) to describe problems arising from mathematical and real-world situations, including growth and decay

# Algebra I Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Mixed Review Lessons	STAAR Grade A1: Review 5	AI.2.A	determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities
		AI.2.C	write linear equations in two variables given a table of values, a graph, and a verbal description
		AI.2.I	write systems of two linear equations given a table of values, a graph, and a verbal description
		AI.3.B	calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems
		AI.3.C	graph linear functions on the coordinate plane and identify key features, including x-intercept, y-intercept, zeros, and slope, in mathematical and real-world problems
		AI.3.D	graph the solution set of linear inequalities in two variables on the coordinate plane
		AI.5.A	solve linear equations in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides
		AI.5.C	solve systems of two linear equations with two variables for mathematical and real-world problems
		AI.9.C	write exponential functions in the form $f(x) = ab$ to the $x$ power (where $b$ is a rational number) to describe problems arising from mathematical and real-world situations, including growth and decay
AI.9.D	graph exponential functions that model growth and decay and identify key features, including y-intercept and asymptote, in mathematical and real-world problems		

# Geometry

## Texas Learning Pathway

# Geometry Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Geometry	Angles in a Polygon	6.8.A	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to represent relationships and solve problems. The student is expected to: extend previous knowledge of triangles and their properties to include the sum of angles of a triangle, the relationship between the lengths of sides and measures of angles in a triangle, and determining when three lengths form a triangle
		7.11.C	Expressions, equations, and relationships. The student applies mathematical process standards to solve one-variable equations and inequalities. The student is expected to: write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships
		G.6.D	verify theorems about the relationships in triangles, including proof of the Pythagorean Theorem, the sum of interior angles, base angles of isosceles triangles, midsegments, and medians, and apply these relationships to solve problems
Congruence	Defining Transformations	G.3.C	identify the sequence of transformations that will carry a given pre-image onto an image on and off the coordinate plane
	Rotational and Reflectional Symmetry	G.3.D	identify and distinguish between reflectional and rotational symmetry in a plane figure
	Representing Transformations with Algebra	G.3.A	describe and perform transformations of figures in a plane using coordinate notation
		G.3.C	identify the sequence of transformations that will carry a given pre-image onto an image on and off the coordinate plane
	Rigid Motion and Congruence	G.6.C	apply the definition of congruence, in terms of rigid transformations, to identify congruent figures and their corresponding sides and angles
	What Is Proof?	G.4.A	distinguish between undefined terms, definitions, postulates, conjectures, and theorems
	Proving Theorems About Lines and Angles	G.6.A	verify theorems about angles formed by the intersection of lines and line segments, including vertical angles, and angles formed by parallel lines cut by a transversal and prove equidistance between the endpoints of a segment and points on its perpendicular bisector and apply these relationships to solve problems
	Proving Theorems About Congruent Triangles	G.6.B	prove two triangles are congruent by applying the Side-Angle-Side, Angle-Side-Angle, Side-Side-Side, Angle-Angle-Side, and Hypotenuse-Leg congruence conditions
G.6.C		apply the definition of congruence, in terms of rigid transformations, to identify congruent figures and their corresponding sides and angles	
Similarity, Right Triangles, and Trigonometry	Problem Solving with Congruent Triangles	G.6.B	prove two triangles are congruent by applying the Side-Angle-Side, Angle-Side-Angle, Side-Side-Side, Angle-Angle-Side, and Hypotenuse-Leg congruence conditions

# Geometry Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Congruence	Proving Theorems About Relationships in Triangles	G.6.D	verify theorems about the relationships in triangles, including proof of the Pythagorean Theorem, the sum of interior angles, base angles of isosceles triangles, midsegments, and medians, and apply these relationships to solve problems
	Proving Theorems About Parallelograms	G.6.E	prove a quadrilateral is a parallelogram, rectangle, square, or rhombus using opposite sides, opposite angles, or diagonals and apply these relationships to solve problems
	Constructing Angles and Special Line Segments	G.5.B	construct congruent segments, congruent angles, a segment bisector, an angle bisector, perpendicular lines, the perpendicular bisector of a line segment, and a line parallel to a given line through a point not on a line using a compass and a straightedge
		G.5.C	use the constructions of congruent segments, congruent angles, angle bisectors, and perpendicular bisectors to make conjectures about geometric relationships
	Constructing Inscribed Figures	G.5.A	investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools
Modeling with Geometry	Modeling Objects with Geometric Figures	G.11.C	apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure
	Using Geometric Relationships to Solve Design Problems	G.10.B	determine and describe how changes in the linear dimensions of a shape affect its perimeter, area, surface area, or volume, including proportional and non-proportional dimensional change

# Geometry Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Similarity, Right Triangles, and Trigonometry	Properties of Dilations I	G.3.B	determine the image or pre-image of a given two-dimensional figure under a composition of rigid transformations, a composition of non-rigid transformations, and a composition of both, including dilations where the center can be any point in the plane
	Properties of Dilations II	G.3.B	determine the image or pre-image of a given two-dimensional figure under a composition of rigid transformations, a composition of non-rigid transformations, and a composition of both, including dilations where the center can be any point in the plane
	Transformations and Similarity	G.7.A	apply the definition of similarity in terms of a dilation to identify similar figures and their proportional sides and the congruent corresponding angles
		G.7.B	apply the Angle-Angle criterion to verify similar triangles and apply the proportionality of the corresponding sides to solve problems
		G.8.A	prove theorems about similar triangles, including the Triangle Proportionality theorem, and apply these theorems to solve problems
Problem Solving with Transformations and Similarity	G.8.A	prove theorems about similar triangles, including the Triangle Proportionality theorem, and apply these theorems to solve problems	
Geometry	Pythagorean Theorem - Mixed Problems	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
		G.9.B	apply the relationships in special right triangles $30^\circ$ - $60^\circ$ - $90^\circ$ and $45^\circ$ - $45^\circ$ - $90^\circ$ and the Pythagorean theorem, including Pythagorean triples, to solve problems
Similarity, Right Triangles, and Trigonometry	Proving Theorems About Similar Triangles	G.8.A	prove theorems about similar triangles, including the Triangle Proportionality theorem, and apply these theorems to solve problems
		G.8.B	identify and apply the relationships that exist when an altitude is drawn to the hypotenuse of a right triangle, including the geometric mean, to solve problems
	Similarity and Trigonometric Ratios	G.9.A	determine the lengths of sides and measures of angles in a right triangle by applying the trigonometric ratios sine, cosine, and tangent to solve problems
	Problem Solving with Similarity and Trigonometric Ratios	G.9.A	determine the lengths of sides and measures of angles in a right triangle by applying the trigonometric ratios sine, cosine, and tangent to solve problems
	Sine and Cosine of Complementary Angles	G.9.A	determine the lengths of sides and measures of angles in a right triangle by applying the trigonometric ratios sine, cosine, and tangent to solve problems

# Geometry Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Geometry	Surface Area and Volume of Rectangular Prisms	7.9.A	Expressions, equations, and relationships. The student applies mathematical process standards to solve geometric problems. The student is expected to: solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids
		7.9.D	Expressions, equations, and relationships. The student applies mathematical process standards to solve geometric problems. The student is expected to: solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net
		8.7.B	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to: use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders
		G.11.C	apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure
		G.11.D	apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure

# Geometry Texas Learning Pathway



Unit	Lesson Name	Standard Code	Standard Description
Geometry	Surface Area of Cylinders	8.7.B	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to: use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders
		G.11.C	apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure
	Surface Area of Pyramids	7.9.D	Expressions, equations, and relationships. The student applies mathematical process standards to solve geometric problems. The student is expected to: solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net
		G.11.C	apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure
	Surface Area of Cones	G.11.C	apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure
	Surface Area of Spheres	G.11.C	apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure
	Surface Area of Composite Solids	G.11.C	apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure
	Volume of Cylinders	8.6.A	Expressions, equations, and relationships. The student applies mathematical process standards to develop mathematical relationships and make connections to geometric formulas. The student is expected to: describe the volume formula $V = Bh$ of a cylinder in terms of its base area and its height
		8.6.B	Expressions, equations, and relationships. The student applies mathematical process standards to develop mathematical relationships and make connections to geometric formulas. The student is expected to: model the relationship between the volume of a cylinder and a cone having both congruent bases and heights and connect that relationship to the formulas
		8.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to: solve problems involving the volume of cylinders, cones, and spheres
		G.11.D	apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure



# Geometry Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Geometry	Volume of Pyramids and Cones	7.8.A	Expressions, equations, and relationships. The student applies mathematical process standards to develop geometric relationships with volume. The student is expected to: model the relationship between the volume of a rectangular prism and a rectangular pyramid having both congruent bases and heights and connect that relationship to the formulas
		7.8.B	Expressions, equations, and relationships. The student applies mathematical process standards to develop geometric relationships with volume. The student is expected to: explain verbally and symbolically the relationship between the volume of a triangular prism and a triangular pyramid having both congruent bases and heights and connect that relationship to the formulas
		7.9.A	Expressions, equations, and relationships. The student applies mathematical process standards to solve geometric problems. The student is expected to: solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids
		8.6.B	Expressions, equations, and relationships. The student applies mathematical process standards to develop mathematical relationships and make connections to geometric formulas. The student is expected to: model the relationship between the volume of a cylinder and a cone having both congruent bases and heights and connect that relationship to the formulas
		8.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to: solve problems involving the volume of cylinders, cones, and spheres
		G.11.D	apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure
	Volume of Spheres	8.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to: solve problems involving the volume of cylinders, cones, and spheres
		G.11.D	apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure
	Volume of Composite Solids	8.7.A	Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to: solve problems involving the volume of cylinders, cones, and spheres
		G.11.D	apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure

# Geometry Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Geometric Measurement and Dimension	Understanding Formulas for Curved Figures	G.11.C	apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure
	Cross Sections of 3-Dimensional Figures	G.10.A	identify the shapes of two-dimensional cross-sections of prisms, pyramids, cylinders, cones, and spheres and identify three-dimensional objects generated by rotations of two-dimensional shapes
Expressing Geometric Properties with Equations	Coordinates of Parallel and Perpendicular Lines	G.2.B	derive and use the distance, slope, and midpoint formulas to verify geometric relationships, including congruence of segments and parallelism or perpendicularity of pairs of lines
		G.2.C	determine an equation of a line parallel or perpendicular to a given line that passes through a given point
	Problem Solving with Coordinates of Parallel and Perpendicular Lines	G.2.B	derive and use the distance, slope, and midpoint formulas to verify geometric relationships, including congruence of segments and parallelism or perpendicularity of pairs of lines
	Dividing a Segment Proportionally	G.2.A	determine the coordinates of a point that is a given fractional distance less than one from one end of a line segment to the other in one- and two-dimensional coordinate systems, including finding the midpoint
	Using Coordinates to Find Perimeters and Areas	G.2.B	derive and use the distance, slope, and midpoint formulas to verify geometric relationships, including congruence of segments and parallelism or perpendicularity of pairs of lines
Circles	Tangents, Chords, Radii, and Angles in Circles	G.5.A	investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools
		G.12.A	apply theorems about circles, including relationships among angles, radii, chords, tangents, and secants, to solve non-contextual problems
	Radians and Area of Sectors	G.11.B	determine the area of composite two-dimensional figures comprised of a combination of triangles, parallelograms, trapezoids, kites, regular polygons, or sectors of circles to solve problems using appropriate units of measure
		G.12.B	apply the proportional relationship between the measure of an arc length of a circle and the circumference of the circle to solve problems
		G.12.C	apply the proportional relationship between the measure of the area of a sector of a circle and the area of the circle to solve problems
		G.12.D	describe radian measure of an angle as the ratio of the length of an arc intercepted by a central angle and the radius of the circle

# Geometry Texas Learning Pathway

Unit	Lesson Name	Standard Code	Standard Description
Expressing Geometric Properties with Equations	Equation of a Circle	G.12.E	show that the equation of a circle with center at the origin and radius $r$ is $x^2 + y^2 = r^2$ and determine the equation for the graph of a circle with radius $r$ and center $(h, k)$ , $(x - h)^2 + (y - k)^2 = r^2$
	Problem Solving with the Equation of a Circle	G.12.E	show that the equation of a circle with center at the origin and radius $r$ is $x^2 + y^2 = r^2$ and determine the equation for the graph of a circle with radius $r$ and center $(h, k)$ , $(x - h)^2 + (y - k)^2 = r^2$
Circles	Quadrilaterals Inscribed in Circles	G.5.A	investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools
		G.6.E	prove a quadrilateral is a parallelogram, rectangle, square, or rhombus using opposite sides, opposite angles, or diagonals and apply these relationships to solve problems
Conditional Probability and the Rules of Probability	Using Area Models for Compound Probability	G.13.B	determine probabilities based on area to solve contextual problems
		G.13.D	apply conditional probability in contextual problems
		G.13.E	apply independence in contextual problems
	Understanding Independent and Dependent Events	G.13.C	identify whether two events are independent and compute the probability of the two events occurring together with or without replacement
	Understanding Conditional Probability	G.13.D	apply conditional probability in contextual problems

