

**Attainment Company**  
**Teaching to Standards: Math**  
**Alignment with Texas TAKS-Alt-4<sup>th</sup> Grade**  
**through Exit Level**

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<b>Texas TAKS-Alt Standards</b>	<b>Teaching to Standards: Math Alignment</b>
<p><b>Number, operation, and quantitative reasoning.</b> The student represents and uses rational numbers in a variety of equivalent forms (6.1). The student represents and uses numbers in a variety of equivalent forms (7.1). The student understands that different forms of numbers are appropriate for different situations (8.1).</p>	<p><b>All Lessons in Measurement Unit</b></p>

**Number, operation, and quantitative reasoning.**

The student describes and compares fractional parts of whole objects or sets of objects (4.2).

The student uses fractions in problem-solving situations (5.2).

<p><b>Number, operation, and quantitative reasoning.</b></p> <p>The student adds and subtracts to solve meaningful problems involving whole numbers and decimals (4.3).</p> <p>The student adds, subtracts, multiplies, and divides to solve meaningful problems (5.3).</p> <p>The student adds, subtracts, multiplies, and divides to solve problems and justify solutions (6.2).</p>	<p><b>All Lessons in Algebra Unit</b></p> <p><b>Challenge Lessons in Measurement Unit</b></p> <p><b>Challenge Lessons in Measurement Unit</b></p>
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**Number, operation, and quantitative reasoning.**

The student multiplies and divides to solve meaningful problems involving whole numbers (4.4).

The student adds, subtracts, multiplies, and divides to solve meaningful problems (5.3).

The student adds, subtracts, multiplies, and divides to solve problems and justify solutions (6.2; 7.2).

The student selects and uses appropriate operations to solve problems and justify solutions (8.2).

**Foundations for functions.**

The student understands the importance of the skills required to manipulate symbols in order to solve problems and uses the necessary algebraic skills required to simplify algebraic expressions and solve equations and inequalities in problem situations.

**Quadratic and other nonlinear functions.**

The student understands there are situations modeled by functions that are neither linear nor quadratic and models the situations (A.11).

**Challenge Lessons in Measurement Unit**

**Algebra Unit and Challenge Lessons in Measurement**

**Challenge Lessons in Algebra Unit**

**All Lessons in Algebra Unit**

<p><b>Number, operation, and quantitative reasoning.</b>  The student estimates to determine reasonable results (3.5; 4.5; 5.4). The student adds, subtracts, multiplies, and divides to solve problems and justify solutions (6.2; 7.2).  The student selects and uses appropriate operations to solve problems and justify solutions (8.2).  <b>Foundations for functions.</b> The student uses the properties and attributes of functions (A.2).  <b>Linear functions.</b> The student formulates equations and inequalities based on linear functions, uses a variety of methods to solve them, and analyzes the solutions in terms of the situation (A.7).  The student formulates systems of linear equations from problem situations, uses a variety of methods to solve them, and analyzes the solutions in terms of the situation (A.8).</p>	<p><b>Challenge Lessons in Measurement Unit</b></p> <p><b>All Lessons in Algebra Unit and Challenge Lessons in Measurement</b></p> <p><b>All Lessons in Algebra Unit</b></p>
<p><b>Patterns, relationships, and algebraic thinking.</b>  The student uses organizational structures to analyze and describe patterns and relationships (4.7).  The student makes generalizations based on observed patterns and relationships (5.5).  The student describes relationships mathematically (5.6).  The student solves problems involving direct proportional relationships (6.3; 7.3).  The student uses letters as variables in mathematical expressions to describe how one quantity changes when a related quantity changes (6.4).  The student uses letters to represent an unknown in an equation (6.5).  The student represents a relationship in numerical,</p>	<p><b>All Lessons in Algebra Unit</b></p> <p><b>All Lessons in Algebra Unit</b></p> <p><b>All Lessons in Algebra Unit</b></p> <p><b>All Lessons in Algebra Unit</b></p> <p><b>All Lessons in Algebra Unit</b></p>

geometric, verbal, and symbolic form (7.4).  
The student identifies proportional or non-proportional linear relationships in problem situations and solves problems (8.3).  
**Foundations for functions.** The student understands that a function represents a dependence of one quantity on another and can be described in a variety of ways (A.1).  
The student understands how algebra can be used to express generalizations and recognizes and uses the power of symbols to represent situations (A.3).  
**Linear functions.** The student understands the meaning of the slope and intercepts of the graphs of linear functions and zeros of linear functions and interprets and describes the effects of changes in parameters of linear functions in real-world and mathematical situations (A.6).  
**Quadratic and other nonlinear functions.** The student understands that the graphs of quadratic functions are affected by the parameters of the function and can interpret and describe the effects of changes in the parameters of quadratic functions (A.9).

**Patterns, relationships, and algebraic thinking.**

The student uses equations to solve problems (7.5).

The student makes connections among various representations of a numerical relationship (8.4).

The student uses graphs, tables, and algebraic representations to make predictions and solve problems (8.5).

**Foundations for functions.** The student uses the properties and attributes of functions (A.2).

**Linear functions.** The student understands that linear functions can be represented in different ways and translates among their various representations (A.5). The student formulates equations and inequalities based on linear functions, uses a variety of methods to solve them, and analyzes the solutions in terms of the situation (A.7).

The student formulates systems of linear equations from problem situations, uses a variety of methods to solve them, and analyzes the solutions in terms of the situation (A.8).

**Quadratic and other nonlinear functions.** The student understands there is more than one way to solve a quadratic equation and solves them using appropriate methods (A.10).

The student understands there are situations modeled by functions that are neither linear nor quadratic and models the situations (A.11).

All Lessons in Algebra Unit  
All Lessons in Algebra Unit

All Lessons in Data Analysis Unit

<p><b>Geometry and spatial reasoning.</b>  The student identifies and describes attributes of geometric figures using formal geometric language (4.8).  The student generates geometric definitions using critical attributes (5.7).  The student uses geometric vocabulary to describe angles, polygons, and circles (6.6).  The student compares and classifies two- and three-dimensional figures using geometric vocabulary and properties (7.6).  <b>Geometric structure.</b> The student analyzes geometric relationships in order to make and verify conjectures (G.2).  The student applies logical reasoning to justify and prove mathematical statements (G.3).  <b>Congruence and the geometry of size.</b> The student analyzes properties and describes relationships in geometric figures (G.9).</p>	<p>All Lessons in Geometry Unit</p> <p>All Lessons in Geometry Unit</p> <p>All Lessons in Geometry Unit</p> <p>All Lessons in Geometry Unit</p>
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**Geometry and spatial reasoning.**

The student connects transformations to congruence and symmetry (4.9).

The student models transformations (5.8).

The student uses transformational geometry to develop spatial sense (8.6).

**Congruence and the geometry of size.** The student applies the concept of congruence to justify properties of figures and solve problems (G.10).

**Similarity and the geometry of shape.** The student applies the concepts of similarity to justify properties of figures and solve problems (G.11).

<p><b>Geometry and spatial reasoning.</b> The student recognizes the connection between numbers and their properties and points on a line (4.10).</p> <p>The student recognizes the connection between ordered pairs of numbers and locations of points on a plane (5.9).</p> <p>The student uses coordinate geometry to identify location in two dimensions (6.7).</p> <p>The student uses coordinate geometry to describe location on a plane (7.7).</p> <p>The student uses geometry to model and describe the physical world (8.7).</p> <p><b>Dimensionality and the geometry of location.</b> The student understands that coordinate systems provide convenient and efficient ways of representing geometric figures and uses them accordingly (G.7).</p>	<p>All Lessons in Geometry Unit</p> <p>All Lessons in Geometry Unit</p> <p>All Lessons in Geometry Unit</p> <p>All Lessons in Geometry Unit</p>
<p><b>Geometry and spatial reasoning.</b> The student uses geometry to model and describe the physical world (7.8; 8.7).</p> <p><b>Geometric structure.</b> The student uses a variety of representations to describe geometric relationships and solve problems (G.4).</p> <p><b>Geometric patterns.</b> The student uses a variety of representations to describe geometric relationships and solve problems (G.5).</p> <p><b>Dimensionality and the geometry of location.</b> The student analyzes the relationship between three-dimensional geometric figures and related two-dimensional representations and uses these representations to solve problems (G.6).</p>	<p>All Lessons in Geometry Unit</p>



**Measurement.**

The student applies measurement concepts. The student measures time and temperature (in degrees Fahrenheit and Celsius) (4.12; 5.11).

<p><b>Probability and statistics.</b></p> <p>The student solves problems by collecting, organizing, displaying, and interpreting sets of data (3.13; 4.13; 5.13).</p> <p>The student uses statistical representations to analyze data (6.10).</p> <p>The student understands that the way a set of data is displayed influences its interpretation (7.11).</p> <p>The student uses statistical procedures to describe data (8.12).</p> <p>The student evaluates predictions and conclusions based on statistical data (8.13).</p>	<p><b>All Lessons in Data Analysis Unit</b></p> <p><b>All Lessons in Data Analysis Unit</b></p> <p><b>All Lessons in Data Analysis Unit</b></p> <p><b>All Lessons in Data Analysis Unit</b></p>
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**Probability and statistics.**

The student describes and predicts the results of a probability experiment (5.12).

The student uses experimental and theoretical probability to make predictions (6.9).

The student recognizes that a physical or mathematical model can be used to describe the experimental and theoretical probability of real-life events (7.10).

The student applies concepts of theoretical and experimental probability to make predictions (8.11).

<p><b>Probability and statistics.</b></p> <p>The student solves problems by collecting, organizing, displaying, and interpreting sets of data (5.13).</p> <p>The student uses statistical representations to analyze data (6.10).</p> <p>The student uses measures of central tendency and range to describe a set of data (7.12).</p> <p>The student uses statistical procedures to describe data (8.12).</p>	<p><b>All Lessons in Data Analysis Unit</b></p>
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<p><b>Underlying processes and mathematical tools.</b>  The student communicates about [Kindergarten; Grade 1; Grade 2; Grade 3; Grade 4; Grade 5] mathematics using informal language (K.14; 1.12; 2.13; 3.15; 4.15; 5.15).  The student communicates about [Grade 6; Grade 7; Grade 8] mathematics through informal and mathematical language, representations, and models (6.12; 7.14; 8.15).  <b>Geometric structure.</b> The student understands the structure of, and relationships within, an axiomatic system (G.1).</p>	<p>All Lessons all Units</p> <p>All Lessons all Units</p>
<p><b>Underlying processes and mathematical tools.</b>  The student uses logical reasoning (K.15; 1.13; 2.14; 3.16; 4.16; 5.16).  The student uses logical reasoning to make conjectures and verify conclusions (6.13; 7.15; 8.16).  <b>Geometric structure.</b> The student applies logical reasoning to justify and prove mathematical statements</p>	<p>All Lessons all Units</p>