



TEKS Curriculum Framework for STAAR Alternate
Grade 4 Mathematics

STAAR Reporting Category 1 – Numbers, Operations, and Quantitative Reasoning: The student will demonstrate an understanding of numbers, operations, and quantitative reasoning.	
TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectations	Essence of TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectations
<p>(4.1) Number, operation, and quantitative reasoning. The student uses place value to represent whole numbers and decimals. The student is expected to</p> <p>(A) use place value to read, write, compare, and order whole numbers through 999,999,999; Supporting Standard</p> <p>(B) use place value to read, write, compare, and order decimals involving tenths and hundredths, including money, using [concrete objects and] pictorial models. Readiness Standard</p>	<p>Uses place value to demonstrate understanding of numbers.</p>
4.1 Prerequisite Skills/Links to TEKS Vertical Alignment	
<p><i>Place Value and Equivalent Forms of Numbers</i></p> <ul style="list-style-type: none"> • determine the value of a collection of coins and bills • use place value to compare and order whole numbers through 9,999 • use place value to read, write (in symbols and words), and describe the value of whole numbers through 999,999 • describe how the cent symbol, dollar symbol, and the decimal point are used to name the value of a collection of coins • determine the value of a collection of coins up to one dollar • use place value to compare and order whole numbers to 999 and record the comparisons using numbers and symbols (<, =, >) • use place value to read, write, and describe the value of whole numbers to 999 • use concrete models of hundreds, tens, and ones to represent a given whole number (up to 999) in various ways • read and write numbers to 99 to describe sets of concrete objects • identify individual coins by name and value and describe relationships among them • create sets of tens and ones using concrete objects to describe, compare, and order whole numbers • compare and order whole numbers up to 99 (less than, greater than, or equal to) using sets of concrete objects and pictorial models • name the ordinal positions in a sequence such as first, second, third, etc. • use language such as before or after to describe relative position in a sequence of events or objects • use numbers to describe how many objects are in a set (through 20) using verbal and symbolic descriptions • use sets of concrete objects to represent quantities given in verbal or written form (through 20) • use one-to-one correspondence and language such as more than, same number as, or two less than to describe relative sizes of sets of concrete objects 	<p><i>Continued</i></p>

4.1	Prerequisite Skills/Links to TEKS Vertical Alignment
	<p data-bbox="191 220 401 250">Counting skills</p> <ul data-bbox="226 256 1591 591" style="list-style-type: none"><li data-bbox="226 256 705 285">• recognize one-digit numerals, 0-9<li data-bbox="226 293 1167 326">• verbally identify, without counting, the number of objects from 1 to 5<li data-bbox="226 334 638 363">• use the verbal ordinal terms<li data-bbox="226 371 1478 404">• demonstrate understanding that when counting, the items can be chosen in any order<li data-bbox="226 412 1535 444">• count up to 10 items, and demonstrate that the last count indicates how many items were counted<li data-bbox="226 453 1591 485">• demonstrate that the order of the counting sequence is always the same, regardless of what is counted<li data-bbox="226 493 810 526">• count 1-10 items, with one count per item<li data-bbox="226 534 743 566">• use words to rote count from 1 to 30<li data-bbox="226 574 978 607">• know that objects, or parts of an object, can be counted

NOTE: Under each heading the prerequisite skills are arranged from the highest grade level to the lowest grade level.

STAAR Reporting Category 1 – Numbers, Operations, and Quantitative Reasoning: The student will demonstrate an understanding of numbers, operations, and quantitative reasoning.	
TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectations	Essence of TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectations
<p>(4.2) Number, operation, and quantitative reasoning. The student describes and compares fractional parts of whole objects or sets of objects. The student is expected to</p> <ul style="list-style-type: none"> (A) use [concrete objects and] pictorial models to generate equivalent fractions; Supporting Standard (B) model fraction quantities greater than one using [concrete objects and] pictorial models; Supporting Standard (C) compare and order fractions using [concrete objects and] pictorial models; Supporting Standard (D) relate decimals to fractions that name tenths and hundredths using [concrete objects and] pictorial models. Readiness Standard 	<p>Uses fractions to describe parts of a whole.</p>
4.2 Prerequisite Skills/Links to TEKS Vertical Alignment	
<p><i>Fractions</i></p> <ul style="list-style-type: none"> • construct concrete models of equivalent fractions for fractional parts of whole objects • use fraction names and symbols to describe fractional parts of whole objects or sets of objects • compare fractional parts of whole objects or sets of objects in a problem situation using concrete models • construct concrete models of fractions • use concrete models to determine if a fractional part of a whole is closer to 0, $\frac{1}{2}$, or 1 • use concrete models to represent and name fractional parts of a set of objects (with denominators of 12 or less) • use concrete models to represent and name fractional parts of a whole object (with denominators of 12 or less) • use appropriate language to describe part of a set such as three out of the eight crayons are red • separate a whole into two, three, or four equal parts and use appropriate language to describe the parts such as three out of four equal parts • explain why a given part is half of the whole • share a whole by separating it into two equal parts 	

NOTE: Under each heading the prerequisite skills are arranged from the highest grade level to the lowest grade level.

STAAR Reporting Category 1 – Numbers, Operations, and Quantitative Reasoning: The student will demonstrate an understanding of numbers, operations, and quantitative reasoning.	
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<p>(4.3) Number, operation, and quantitative reasoning. The student adds and subtracts to solve meaningful problems involving whole numbers and decimals. The student is expected to</p> <p>(A) use addition and subtraction to solve problems involving whole numbers; Supporting Standard</p> <p>(B) add and subtract decimals to the hundredths place using [concrete objects and] pictorial models. Supporting Standard</p>	<p>Models and solves addition and subtraction problems.</p>
4.3 Prerequisite Skills/Links to TEKS Vertical Alignment	
<p><i>Operations and Reasoning: Addition and Subtraction</i></p> <ul style="list-style-type: none"> • select addition or subtraction and use the operation to solve problems involving whole numbers through 999 • model addition and subtraction using pictures, words, and numbers • select addition or subtraction to solve problems using two-digit numbers, whether or not regrouping is necessary • model addition and subtraction of two-digit numbers with objects, pictures, words, and numbers • recall and apply basic addition and subtraction facts (to 18) • use concrete and pictorial models to apply basic addition and subtraction facts (up to $9 + 9 = 18$ and $18 - 9 = 9$) • model and create addition and subtraction problem situations with concrete objects and write corresponding number sentences • model and create addition and subtraction problems in real situations with concrete objects <p>Adding to/taking away skills</p> <ul style="list-style-type: none"> • use concrete models or make a verbal word problem for subtracting 1–5 objects from a set • use concrete models or make a verbal word problem for adding up to 5 objects <p><i>Operations and Reasoning: Estimation and Reasonableness</i></p> <ul style="list-style-type: none"> • use strategies including rounding and compatible numbers to estimate solutions to addition and subtraction problems • round whole numbers to the nearest ten or hundred to approximate reasonable results in problem situations 	

NOTE: Under each heading the prerequisite skills are arranged from the highest grade level to the lowest grade level.

STAAR Reporting Category 1 – Numbers, Operations, and Quantitative Reasoning: The student will demonstrate an understanding of numbers, operations, and quantitative reasoning.	
TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectations	Essence of TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectations
<p>(4.4) Number, operation, and quantitative reasoning. The student multiplies and divides to solve meaningful problems involving whole numbers. The student is expected to</p> <ul style="list-style-type: none"> (A) model factors and products using arrays and area models; Supporting Standard (B) represent multiplication and division situations in picture, word, and number form; Supporting Standard (C) recall and apply multiplication facts through 12×12; Supporting Standard (D) use multiplication to solve problems (no more than two digits times two digits without technology); Readiness Standard (E) use division to solve problems (no more than one-digit divisors and three-digit dividends without technology). Readiness Standard 	<p>Models and solves multiplication and division problems.</p>
4.4 Prerequisite Skills/Links to TEKS Vertical Alignment	
<p><i>Operations and Reasoning: Multiplication and Division</i></p> <ul style="list-style-type: none"> • use models to solve division problems and use number sentences to record the solutions • solve and record multiplication problems (up to two digits times one digit) • learn and apply multiplication facts through 12 by 12 using concrete models and objects • model, create, and describe division situations in which a set of concrete objects is separated into equivalent sets • model, create, and describe multiplication situations in which equivalent sets of concrete objects are joined <p><i>Operations and Reasoning: Addition and Subtraction</i></p> <ul style="list-style-type: none"> • select addition or subtraction and use the operation to solve problems involving whole numbers through 999 • model addition and subtraction using pictures, words, and numbers • select addition or subtraction to solve problems using two-digit numbers, whether or not regrouping is necessary • model addition and subtraction of two-digit numbers with objects, pictures, words, and numbers • recall and apply basic addition and subtraction facts (to 18) • use concrete and pictorial models to apply basic addition and subtraction facts (up to $9 + 9 = 18$ and $18 - 9 = 9$) • model and create addition and subtraction problem situations with concrete objects and write corresponding number sentences • model and create addition and subtraction problems in real situations with concrete objects 	<p style="border: 1px solid black; border-radius: 15px; display: inline-block; padding: 2px 10px;"><i>Continued</i></p>

4.4	Prerequisite Skills/Links to TEKS Vertical Alignment
	<p>Adding to/taking away skills</p> <ul style="list-style-type: none">• use informal strategies to share or divide up to 10 items equally• use concrete models or make a verbal word problem for subtracting 1–5 objects from a set• use concrete models or make a verbal word problem for adding up to 5 objects <p><i>Operations and Reasoning: Estimation and Reasonableness</i></p> <ul style="list-style-type: none">• use strategies including rounding and compatible numbers to estimate solutions to addition and subtraction problems• round whole numbers to the nearest ten or hundred to approximate reasonable results in problem situations

NOTE: Under each heading the prerequisite skills are arranged from the highest grade level to the lowest grade level.

STAAR Reporting Category 1 – Numbers, Operations, and Quantitative Reasoning: The student will demonstrate an understanding of numbers, operations, and quantitative reasoning.	
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<p>(4.5) Number, operation, and quantitative reasoning. The student estimates to determine reasonable results. The student is expected to</p> <p>(A) round whole numbers to the nearest ten, hundred, or thousand to approximate reasonable results in problem situations; Supporting Standard</p> <p>(B) use strategies including rounding and compatible numbers to estimate solutions to multiplication and division problems. Supporting Standard</p>	<p>Uses estimation strategies to solve problems.</p>
4.5 Prerequisite Skills/Links to TEKS Vertical Alignment	
<p><i>Operations and Reasoning: Estimation and Reasonableness</i></p> <ul style="list-style-type: none"> • use strategies including rounding and compatible numbers to estimate solutions to addition and subtraction problems • round whole numbers to the nearest ten or hundred to approximate reasonable results in problem situations <p><i>Operations and Reasoning: Addition and Subtraction</i></p> <ul style="list-style-type: none"> • select addition or subtraction and use the operation to solve problems involving whole numbers through 999 • model addition and subtraction using pictures, words, and numbers • select addition or subtraction to solve problems using two-digit numbers, whether or not regrouping is necessary • model addition and subtraction of two-digit numbers with objects, pictures, words, and numbers • recall and apply basic addition and subtraction facts (to 18) • use concrete and pictorial models to apply basic addition and subtraction facts (up to $9 + 9 = 18$ and $18 - 9 = 9$) • model and create addition and subtraction problem situations with concrete objects and write corresponding number sentences • model and create addition and subtraction problems in real situations with concrete objects <p><i>Operations and Reasoning: Multiplication and Division</i></p> <ul style="list-style-type: none"> • use models to solve division problems and use number sentences to record the solutions • solve and record multiplication problems (up to two digits times one digit) • learn and apply multiplication facts through 12 by 12 using concrete models and objects • model, create, and describe division situations in which a set of concrete objects is separated into equivalent sets • model, create, and describe multiplication situations in which equivalent sets of concrete objects are joined 	

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4.5	Prerequisite Skills/Links to TEKS Vertical Alignment
	<p data-bbox="199 214 598 246">Adding to/taking away skills</p> <ul data-bbox="220 251 1438 365" style="list-style-type: none"><li data-bbox="220 251 1102 284">• use informal strategies to share or divide up to 10 items equally<li data-bbox="220 289 1438 321">• use concrete models or make a verbal word problem for subtracting 1–5 objects from a set<li data-bbox="220 326 1291 358">• use concrete models or make a verbal word problem for adding up to 5 objects

NOTE: Under each heading the prerequisite skills are arranged from the highest grade level to the lowest grade level.

STAAR Reporting Category 2 – Patterns, Relationships, and Algebraic Reasoning: The student will demonstrate an understanding of patterns, relationships, and algebraic reasoning.	
TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectations	Essence of TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectations
<p>(4.6) Patterns, relationships, and algebraic thinking. The student uses patterns in multiplication and division. The student is expected to (A) use patterns and relationships to develop strategies to remember basic multiplication and division facts (such as the patterns in related multiplication and division number sentences (fact families) such as $9 \times 9 = 81$ and $81 \div 9 = 9$); Supporting Standard (B) use patterns to multiply by 10 and 100. Supporting Standard</p>	<p>Identifies and uses patterns to solve multiplication and division problems.</p>

4.6	Prerequisite Skills/Links to TEKS Vertical Alignment
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	<p><i>Patterns</i></p> <ul style="list-style-type: none"> • identify patterns in related multiplication and division sentences (fact families) such as $2 \times 3 = 6$, $3 \times 2 = 6$, $6 \div 2 = 3$, $6 \div 3 = 2$ • identify patterns in multiplication facts using concrete objects, pictorial models, or technology • identify and extend whole-number and geometric patterns to make predictions and solve problems • identify, describe, and extend repeating and additive patterns to make predictions and solve problems • identify patterns in a list of related number pairs based on a real-life situation and extend the list • generate a list of paired numbers based on a real-life situation such as number of tricycles related to number of wheels • use patterns and relationships to develop strategies to remember basic addition and subtraction facts. Determine patterns in related addition and subtraction number sentences (including fact families) such as $8 + 9 = 17$, $9 + 8 = 17$, $17 - 8 = 9$, and $17 - 9 = 8$ • use patterns in place value to compare and order whole numbers through 999 • find patterns in numbers such as in a 100s chart • identify patterns in related addition and subtraction sentences (fact families for sums to 18) such as $2 + 3 = 5$, $3 + 2 = 5$, $5 - 2 = 3$, and $5 - 3 = 2$ • use patterns to develop strategies to solve basic addition and basic subtraction problems • compare and order whole numbers using place value • find patterns in numbers, including odd and even • use patterns to skip count by twos, fives, and tens • identify, describe, and extend concrete and pictorial patterns in order to make predictions and solve problems • count by ones to 100
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4.6	Prerequisite Skills/Links to TEKS Vertical Alignment
	<ul style="list-style-type: none">• use patterns to predict what comes next, including cause-and-effect relationships• identify, extend, and create patterns of sounds, physical movement, and concrete objects <p>Classification and patterns skills</p> <ul style="list-style-type: none">• recognize and create patterns

NOTE: Under each heading the prerequisite skills are arranged from the highest grade level to the lowest grade level.

STAAR Reporting Category 2 – Patterns, Relationships, and Algebraic Reasoning: The student will demonstrate an understanding of patterns, relationships, and algebraic reasoning.	
TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectation	Essence of TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectation
<p>(4.7) Patterns, relationships, and algebraic thinking. The student uses organizational structures to analyze and describe patterns and relationships. The student is expected to</p> <p>(A) describe the relationship between two sets of related data such as ordered pairs in a table. Readiness Standard</p>	<p>Recognizes relationships between sets.</p>
4.7 Prerequisite Skills/Links to TEKS Vertical Alignment	
<p><i>Graphical Representations</i></p> <ul style="list-style-type: none"> • identify and describe patterns in a table of related number pairs based on a meaningful problem and extend the table • generate a table of paired numbers based on a real-life situation such as insects and legs <p><i>Patterns</i></p> <ul style="list-style-type: none"> • identify patterns in related multiplication and division sentences (fact families) such as $2 \times 3 = 6$, $3 \times 2 = 6$, $6 \div 2 = 3$, $6 \div 3 = 2$ • identify patterns in multiplication facts using concrete objects, pictorial models, or technology • identify and extend whole-number and geometric patterns to make predictions and solve problems • identify, describe, and extend repeating and additive patterns to make predictions and solve problems • identify patterns in a list of related number pairs based on a real-life situation and extend the list • generate a list of paired numbers based on a real-life situation such as number of tricycles related to number of wheels • use patterns and relationships to develop strategies to remember basic addition and subtraction facts. Determine patterns in related addition and subtraction number sentences (including fact families) such as $8 + 9 = 17$, $9 + 8 = 17$, $17 - 8 = 9$, and $17 - 9 = 8$ • use patterns in place value to compare and order whole numbers through 999 • find patterns in numbers such as in a 100s chart • identify patterns in related addition and subtraction sentences (fact families for sums to 18) such as $2 + 3 = 5$, $3 + 2 = 5$, $5 - 2 = 3$, and $5 - 3 = 2$ • use patterns to develop strategies to solve basic addition and basic subtraction problems • compare and order whole numbers using place value • find patterns in numbers, including odd and even • use patterns to skip count by twos, fives, and tens • identify, describe, and extend concrete and pictorial patterns in order to make predictions and solve problems • count by ones to 100 	

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4.7	Prerequisite Skills/Links to TEKS Vertical Alignment
	<ul style="list-style-type: none">• use patterns to predict what comes next, including cause-and-effect relationships• identify, extend, and create patterns of sounds, physical movement, and concrete objects <p>Classification and patterns skills</p> <ul style="list-style-type: none">• recognize and create patterns

NOTE: Under each heading the prerequisite skills are arranged from the highest grade level to the lowest grade level.

STAAR Reporting Category 3 – Geometry and Spatial Reasoning: The student will demonstrate an understanding of geometry and spatial reasoning.	
TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectations	Essence of TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectations
<p>(4.8) Geometry and spatial reasoning. The student identifies and describes attributes of geometric figures using formal geometric language. The student is expected to</p> <p>(A) identify and describe right, acute, and obtuse angles; Supporting Standard</p> <p>(B) identify and describe parallel and intersecting (including perpendicular) lines using [concrete objects and] pictorial models; Supporting Standard</p> <p>(C) use essential attributes to define two- and three-dimensional geometric figures. Readiness Standard</p>	<p>Uses attributes to identify geometric figures.</p>
4.8 Prerequisite Skills/Links to TEKS Vertical Alignment	
<p><i>Attributes of Geometric Figures</i></p> <ul style="list-style-type: none"> • compare two-dimensional figures, three-dimensional figures, or both by their attributes using formal geometry vocabulary • identify, classify, and describe two- and three-dimensional geometric figures by their attributes • cut two-dimensional geometric figures apart and identify the new geometric figures formed • use attributes to describe how 2 two-dimensional figures or 2 three-dimensional geometric figures are alike or different • describe attributes (the number of vertices, faces, edges, sides) of two- and three-dimensional geometric figures such as circles, polygons, spheres, cones, cylinders, prisms, and pyramids, etc. • use concrete models to combine two-dimensional geometric figures to make new geometric figures • describe and identify two- and three-dimensional geometric figures in order to sort them according to a given attribute using informal and formal language • describe and identify three-dimensional geometric figures, including spheres, rectangular prisms (including cubes), cylinders, and cones • describe and identify two-dimensional geometric figures, including circles, triangles, rectangles, and squares (a special type of rectangle) • describe, identify, and compare circles, triangles, rectangles, and squares (a special type of rectangle) • recognize shapes in real-life three-dimensional geometric figures or models of three-dimensional geometric figures • describe and compare the attributes of real-life objects such as balls, boxes, cans, and cones or models of three-dimensional geometric figures 	

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4.8	Prerequisite Skills/Links to TEKS Vertical Alignment
	<ul style="list-style-type: none">• sort a variety of objects including two- and three-dimensional geometric figures according to their attributes and describe how the objects are sorted• compare two objects based on their attributes• describe and identify an object by its attributes using informal language <p>Geometry and spatial sense skills</p> <ul style="list-style-type: none">• create shapes• name common shapes

NOTE: Under each heading the prerequisite skills are arranged from the highest grade level to the lowest grade level.

STAAR Reporting Category 3 – Geometry and Spatial Reasoning: The student will demonstrate an understanding of geometry and spatial reasoning.	
TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectations	Essence of TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectations
<p>(4.9) Geometry and spatial reasoning. The student connects transformations to congruence and symmetry. The student is expected to</p> <ul style="list-style-type: none"> (B) use translations, reflections, and rotations to verify that two shapes are congruent; Readiness Standard (C) use reflections to verify that a shape has symmetry. Supporting Standard 	<p>Identifies congruence and symmetry through transformations.</p>
4.9 Prerequisite Skills/Links to TEKS Vertical Alignment	
	<p><i>Symmetry and Transformations</i></p> <ul style="list-style-type: none"> • identify lines of symmetry in two-dimensional geometric figures • create two-dimensional figures with lines of symmetry using concrete models and technology • identify congruent two-dimensional figures • place an object in a specified position • describe one object in relation to another using informal language such as over, under, above, and below <p>Geometry and spatial sense skills</p> <ul style="list-style-type: none"> • slide, flip, and turn shapes to demonstrate that the shapes remain the same • demonstrate use of location words (such as “over,” “under,” “above,” “on,” “beside,” “next to,” “between,” “in front of,” “near,” “far,” etc.)

NOTE: Under each heading the prerequisite skills are arranged from the highest grade level to the lowest grade level.

STAAR Reporting Category 3 – Geometry and Spatial Reasoning: The student will demonstrate an understanding of geometry and spatial reasoning.	
TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectation	Essence of TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectation
<p>(4.10) Geometry and spatial reasoning. The student recognizes the connection between numbers and their properties and points on a line. The student is expected to</p> <p style="padding-left: 40px;">(A) locate and name points on a number line using whole numbers, fractions such as halves and fourths, and decimals such as tenths.</p> <p>Readiness Standard</p>	<p>Locates points on a number line.</p>
4.10 Prerequisite Skills/Links to TEKS Vertical Alignment	
4.10	<p><i>Working with Coordinate Planes</i></p> <ul style="list-style-type: none"> • locate and name points on a number line using whole numbers and fractions, including halves and fourths • use whole numbers to locate and name points on a number line <p><i>Symmetry and Transformations</i></p> <ul style="list-style-type: none"> • identify lines of symmetry in two-dimensional geometric figures • create two-dimensional figures with lines of symmetry using concrete models and technology • identify congruent two-dimensional figures • place an object in a specified position • describe one object in relation to another using informal language such as over, under, above, and below <p>Geometry and spatial sense skills</p> <ul style="list-style-type: none"> • slide, flip, and turn shapes to demonstrate that the shapes remain the same • demonstrate use of location words (such as “over,” “under,” “above,” “on,” “beside,” “next to,” “between,” “in front of,” “near,” “far,” etc.)

NOTE: Under each heading the prerequisite skills are arranged from the highest grade level to the lowest grade level.

STAAR Reporting Category 4 – Measurement: The student will demonstrate an understanding of the concepts and uses of measurement.	
TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectations	Essence of TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectations
<p>(4.11) Measurement. The student applies measurement concepts. The student is expected to estimate and measure to solve problems involving length (including perimeter) and area. The student uses measurement tools to measure capacity/volume and weight/mass.</p> <p>The student is expected to</p> <ul style="list-style-type: none"> (A) estimate and use measurement tools to determine length (including perimeter), area, capacity, and weight/mass using standard units SI (metric) and customary; Readiness Standard (B) perform simple conversions between different units of length, between different units of capacity, and between different units of weight within the customary measurement system; Supporting Standard (C) use [concrete] models of standard cubic units to measure volume; Supporting Standard (D) estimate volume in cubic units; Supporting Standard (E) explain the difference between weight and mass. Supporting Standard 	<p>Uses measurement to solve problems.</p>
4.11 Prerequisite Skills/Links to TEKS Vertical Alignment	
4.11	<p><i>Comparisons</i></p> <ul style="list-style-type: none"> • compare and order two or more objects according to weight/mass (from heaviest to lightest) • compare and order two or more containers according to capacity (from holds the most to holds the least) • compare and order the area of two or more two-dimensional surfaces (from covers the most to covers the least) • describe the relationship between the size of the unit and the number of units needed to measure the length of an object • compare and order two or more concrete objects according to length (from longest to shortest) • compare two objects according to weight/mass (heavier than, lighter than or equal to) • compare two containers according to capacity (holds more, holds less, or holds the same) • compare the areas of two flat surfaces of two-dimensional figures (covers more, covers less, or covers the same) • compare and order two or three concrete objects according to length (longer/ shorter than, or the same)

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4.11	Prerequisite Skills/Links to TEKS Vertical Alignment
	<p data-bbox="199 214 367 243"><i>Using Models</i></p> <ul data-bbox="220 251 1858 690" style="list-style-type: none">• use concrete models that approximate cubic units to determine the volume of a given container or other three-dimensional geometric figure• identify concrete models that approximate standard units for capacity and use them to measure capacity• identify concrete models that approximate standard units of weight/mass and use them to measure weight/mass• use concrete and pictorial models of square units to determine the area of two-dimensional surfaces• use standard units to find the perimeter of a shape• use linear measurement tools to estimate and measure lengths using standard units• select a non-standard unit of measure such as beans or marbles to determine the weight/mass of a given object• select a non-standard unit of measure such as a bathroom cup or a jar to determine the capacity of a given container• select a non-standard unit of measure such as square tiles to determine the area of a two-dimensional surface• identify concrete models that approximate standard units of length and use them to measure length• estimate and measure length using nonstandard units such as paper clips or sides of color tiles <p data-bbox="199 698 472 727">Measurement skills</p> <ul data-bbox="220 735 1081 844" style="list-style-type: none">• informally recognize and compare weights of objects or people• recognize how much can be placed within an object• recognize and compare heights or lengths of people or objects

NOTE: Under each heading the prerequisite skills are arranged from the highest grade level to the lowest grade level.

STAAR Reporting Category 4 – Measurement: The student will demonstrate an understanding of the concepts and uses of measurement.	
TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectations	Essence of TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectations
<p>(4.12) Measurement. The student applies measurement concepts. The student measures time and temperature (in degrees Fahrenheit and Celsius). The student is expected to</p> <ul style="list-style-type: none"> (A) use a thermometer to measure temperature and changes in temperature; Supporting Standard (B) use tools such as a clock with gears or a stopwatch to solve problems involving elapsed time. Supporting Standard 	<p>Uses temperature and time to solve problems.</p>
4.12 Prerequisite Skills/Links to TEKS Vertical Alignment	
<p><i>Time and Temperature</i></p> <ul style="list-style-type: none"> • tell and write time shown on analog and digital clocks • use a thermometer to measure temperature • describe activities that take approximately one second, one minute, and one hour • read and write times shown on analog and digital clocks using five-minute increments • read a thermometer to gather data • read time to the hour and half-hour using analog and digital clocks • order three or more events according to duration • compare and order two or more objects according to relative temperature (from hottest to coldest) • read a calendar using days, weeks, and months • sequence events (up to three) • compare events according to duration such as more time than or less time than • compare situations or objects according to relative temperature (hotter/colder than, or the same as) <p>Measurement skills</p> <ul style="list-style-type: none"> • use language to describe concepts associated with the passing of time 	

NOTE: Under each heading the prerequisite skills are arranged from the highest grade level to the lowest grade level.

STAAR Reporting Category 5 – Probability and Statistics: The student will demonstrate an understanding of probability and statistics.	
TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectations	Essence of TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectations
<p>(4.13) Probability and statistics. The student solves problems by collecting, organizing, displaying, and interpreting sets of data. The student is expected to</p> <p>(A) use [concrete objects or] pictures to make generalizations about determining all possible combinations of a given set of data or of objects in a problem situation; Supporting Standard</p> <p>(B) interpret bar graphs. Readiness Standard</p>	<p>Uses data to solve problems.</p>
4.13 Prerequisite Skills/Links to TEKS Vertical Alignment	
4.13	<p><i>Working with Data</i></p> <ul style="list-style-type: none"> • use data to describe events as more likely than, less likely than, or equally likely as • interpret information from pictographs and bar graphs • collect, organize, record, and display data in pictographs and bar graphs where each picture or cell might represent more than one piece of data • use data to describe events as more likely or less likely such as drawing a certain color crayon from a bag of seven red crayons and three green crayons • draw conclusions and answer questions based on picture graphs and bar-type graphs • construct picture graphs and bar-type graphs • identify events as certain or impossible such as drawing a red crayon from a bag of green crayons • draw conclusions and answer questions using information organized in real-object graphs, picture graphs, and bar-type graphs • use organized data to construct real-object graphs, picture graphs, and bar-type graphs • collect and sort data • use information from a graph of real objects or pictures in order to answer questions • construct graphs using real objects or pictures in order to answer questions <p>Classification and patterns skills</p> <ul style="list-style-type: none"> • collect data and organize it in a graphic representation • sort objects that are the same and different into groups and use language to describe how the groups are similar and different

NOTE: Under each heading the prerequisite skills are arranged from the highest grade level to the lowest grade level.

<p>Standards for Underlying Processes and Mathematical Tools – Standards for underlying processes and mathematical tools will not be listed under a separate reporting category. These standards will be incorporated into assessment tasks in reporting categories 1–5 and identified along with content standards.</p>	
<p>TEKS Knowledge and Skills Statement/STAAR-Tested Student Expectations</p>	
<p>(4.14) Underlying processes and mathematical tools. The student applies Grade 4 mathematics to solve problems connected to everyday experiences and activities in and outside of school. The student is expected to</p> <ul style="list-style-type: none"> (A) identify the mathematics in everyday situations; (B) solve problems that incorporate understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness; (C) select or develop an appropriate problem-solving plan or strategy, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem; (D) use tools such as real objects, manipulatives, [and technology] to solve problems. 	
<p>4.14 Prerequisite Skills/Links to TEKS Vertical Alignment</p>	
<p><i>Solving Problems</i></p>	<ul style="list-style-type: none"> • select or develop an appropriate problem-solving plan or strategy, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem • solve problems that incorporate understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness • select or develop an appropriate problem-solving plan or strategy including drawing a picture, looking for a pattern, systematic guessing and checking, or acting it out in order to solve a problem • use tools such as real objects, manipulatives, and technology to solve problems • identify mathematics in everyday situations • solve problems with guidance that incorporates the processes of understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness • select or develop an appropriate problem-solving strategy including drawing a picture, looking for a pattern, systematic guessing and checking, or acting it out in order to solve a problem

NOTE: Under each heading the prerequisite skills are arranged from the highest grade level to the lowest grade level.

<p>Standards for Underlying Processes and Mathematical Tools – Standards for underlying processes and mathematical tools will not be listed under a separate reporting category. These standards will be incorporated into assessment tasks in reporting categories 1–5 and identified along with content standards.</p>	
<p>TEKS Knowledge and Skills Statement/STAAR-Tested Student Expectations</p>	
<p>(4.15) Underlying processes and mathematical tools. The student communicates about Grade 4 mathematics using informal language. The student is expected to</p> <ul style="list-style-type: none"> (A) explain and record observations using [objects,] words, pictures, numbers, [and technology;] (B) relate informal language to mathematical language and symbols. 	
<p>4.15 Prerequisite Skills/Links to TEKS Vertical Alignment</p>	
	<p><i>Mathematics and Symbols</i></p> <ul style="list-style-type: none"> • relate informal language to mathematical language and symbols • explain and record observations using objects, words, pictures, numbers, and technology • relate everyday language to mathematical language and symbols • communicate mathematical ideas using objects, words, pictures, numbers, and technology

NOTE: Under each heading the prerequisite skills are arranged from the highest grade level to the lowest grade level.

<p>Standards for Underlying Processes and Mathematical Tools – Standards for underlying processes and mathematical tools will not be listed under a separate reporting category. These standards will be incorporated into assessment tasks in reporting categories 1–5 and identified along with content standards.</p>	
<p>TEKS Knowledge and Skills Statement/STAAR-Tested Student Expectations</p>	
<p>(4.16) Underlying processes and mathematical tools. The student uses logical reasoning. The student is expected to (A) make generalizations from patterns or sets of examples and nonexamples; (B) justify why an answer is reasonable and explain the solution process.</p>	
<p>4.16 Prerequisite Skills/Links to TEKS Vertical Alignment</p>	
	<p><i>Mathematical Reasoning</i></p> <ul style="list-style-type: none"> • justify why an answer is reasonable and explain the solution process • make generalizations from patterns or sets of examples and nonexamples • justify his or her thinking using objects, words, pictures, numbers, and technology

NOTE: Under each heading the prerequisite skills are arranged from the highest grade level to the lowest grade level.