



TEKS Curriculum Framework for STAAR Alternate
Grade 6 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>(6.1) Number, operation, and quantitative reasoning. The student represents and uses rational numbers in a variety of equivalent forms. The student is expected to</p> <ul style="list-style-type: none"> (A) compare and order non-negative rational numbers; Supporting Standard (B) generate equivalent forms of rational numbers including whole numbers, fractions, and decimals; Readiness Standard (C) use integers to represent real-life situations; Supporting Standard (D) write prime factorizations using exponents; Supporting Standard (E) identify factors of a positive integer, common factors, and the greatest common factor of a set of positive integers; Supporting Standard (F) identify multiples of a positive integer and common multiples and the least common multiple of a set of positive integers. Supporting Standard 	<p>Uses numbers in a variety of equivalent forms.</p>

6.1 Prerequisite Skills/Links to TEKS Vertical Alignment

<p>6.1</p>	<p><i>Place Value and Equivalent Forms of Numbers</i></p> <ul style="list-style-type: none"> • use place value to read, write, compare, and order decimals through the thousandths place • use place value to read, write, compare, and order whole numbers through 999,999,999,999 • use place value to read, write, compare, and order decimals involving tenths and hundredths, including money, using concrete objects and pictorial models • use place value to read, write, compare, and order whole numbers through 999,999,999 • 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
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Prerequisite Skills/Links to TEKS Vertical Alignment

- 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

Fractions

- use models to relate decimals to fractions that name tenths, hundredths, and thousandths
- compare two fractional quantities in problem-solving situations using a variety of methods, including common denominators
- generate a mixed number equivalent to a given improper fraction or generate an improper fraction equivalent to a given mixed number
- generate a fraction equivalent to a given fraction such as $1/2$ and $3/6$ or $4/12$ and $1/3$
- relate decimals to fractions that name tenths and hundredths using concrete objects and pictorial models
- compare and order fractions using concrete objects and pictorial models
- model fraction quantities greater than one using concrete objects and pictorial models
- use concrete objects and pictorial models to generate equivalent fractions
- 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, $1/2$, 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

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6.1	Prerequisite Skills/Links to TEKS Vertical Alignment
	<ul style="list-style-type: none">• explain why a given part is half of the whole• share a whole by separating it into two equal parts <p>Counting skills</p> <ul style="list-style-type: none">• recognize one-digit numerals, 0-9• verbally identify, without counting, the number of objects from 1 to 5• use the verbal ordinal terms• demonstrate understanding that when counting, the items can be chosen in any order• count up to 10 items, and demonstrate that the last count indicates how many items were counted• demonstrate that the order of the counting sequence is always the same, regardless of what is counted• count 1-10 items, with one count per item• use words to rote count from 1 to 30• 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>(6.2) Number, operation, and quantitative reasoning. The student adds, subtracts, multiplies, and divides to solve problems and justify solutions. The student is expected to</p> <p>(A) model addition and subtraction situations involving fractions with [objects,] pictures, words, and numbers; Supporting Standard</p> <p>(B) use addition and subtraction to solve problems involving fractions and decimals; Readiness Standard</p> <p>(C) use multiplication and division of whole numbers to solve problems including situations involving equivalent ratios and rates; Readiness Standard</p> <p>(D) estimate and round to approximate reasonable results and to solve problems where exact answers are not required; Supporting Standard</p> <p>(E) use order of operations to simplify whole number expressions (without exponents) in problem solving situations. Readiness Standard</p>	<p>Solves problems using operations.</p>

6.2 Prerequisite Skills/Links to TEKS Vertical Alignment

<p><i>Operations and Reasoning: Addition and Subtraction</i></p> <ul style="list-style-type: none"> • model situations using addition and/or subtraction involving fractions with like denominators using concrete objects, pictures, words, and numbers • use addition and subtraction to solve problems involving whole numbers and decimals • add and subtract decimals to the hundredths place using concrete objects and pictorial models • use addition and subtraction to solve problems involving whole numbers • 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 $18 - 9 = 9$)
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6.2	Prerequisite Skills/Links to TEKS Vertical Alignment
	<ul style="list-style-type: none"> • 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"> • identify common factors of a set of whole numbers • use division to solve problems involving whole numbers (no more than two-digit divisors and three-digit dividends without technology), including interpreting the remainder within a given context • use multiplication to solve problems involving whole numbers (no more than three digits times two digits without technology) • use division to solve problems (no more than one-digit divisors and three-digit dividends without technology) • use multiplication to solve problems (no more than two digits times two digits without technology) • recall and apply multiplication facts through 12×12 • represent multiplication and division situations in picture, word, and number form • model factors and products using arrays and area models • 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>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, subtraction, multiplication, and division problems • use strategies including rounding and compatible numbers to estimate solutions to multiplication and division problems • round whole numbers to the nearest ten, hundred, or thousand to approximate reasonable results in problem situations • 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 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>(6.3) Patterns, relationships, and algebraic thinking. The student solves problems involving direct proportional relationships. The student is expected to</p> <ul style="list-style-type: none"> (A) use ratios to describe proportional situations; Supporting Standard (B) represent ratios and percents with [concrete] models, fractions, and decimals; Supporting Standard (C) use ratios to make predictions in proportional situations. Readiness Standard 	<p>Solves problems involving ratios.</p>

6.3 Prerequisite Skills/Links to TEKS Vertical Alignment

	<p><i>Patterns</i></p> <ul style="list-style-type: none"> • use patterns to multiply by 10 and 100 • 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 $81 \div 9 = 9$) • 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
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6.3	Prerequisite Skills/Links to TEKS Vertical Alignment
	<ul style="list-style-type: none">• 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• 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 Expectations	Essence of TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectations
<p>(6.4) Patterns, relationships, and algebraic thinking. The student uses letters as variables in mathematical expressions to describe how one quantity changes when a related quantity changes. The student is expected to</p> <p>(A) use tables and symbols to represent and describe proportional and other relationships such as those involving conversions, arithmetic sequences (with a constant rate of change), perimeter and area; Readiness Standard</p> <p>(B) use tables of data to generate formulas representing relationships involving perimeter, area, volume of a rectangular prism, etc. Supporting Standard</p>	<p>Uses tables, symbols, variables, and formulas to show relationships.</p>

6.4 Prerequisite Skills/Links to TEKS Vertical Alignment

<p>6.4</p>	<p><i>Graphical Representations</i></p> <ul style="list-style-type: none"> • select from and use diagrams and equations such as $y = 5 + 3$ to represent meaningful problem situations • identify prime and composite numbers using concrete objects, pictorial models, and patterns in factor pairs • describe the relationship between sets of data in graphic organizers such as lists, tables, charts, and diagrams • describe the relationship between two sets of related data such as ordered pairs in a table • 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"> • use patterns to multiply by 10 and 100 • 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 $81 \div 9 = 9$) • 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
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6.4	Prerequisite Skills/Links to TEKS Vertical Alignment
	<ul style="list-style-type: none">• 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• 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>(6.5) Patterns, relationships, and algebraic thinking. The student uses letters to represent an unknown in an equation. The student is expected to</p> <p>(A) formulate equations from problem situations described by linear relationships. Readiness Standard</p>	<p>Uses symbols in equations.</p>

6.5 Prerequisite Skills/Links to TEKS Vertical Alignment

<p><i>Graphical Representations</i></p> <ul style="list-style-type: none"> • select from and use diagrams and equations such as $y = 5 + 3$ to represent meaningful problem situations • identify prime and composite numbers using concrete objects, pictorial models, and patterns in factor pairs • describe the relationship between sets of data in graphic organizers such as lists, tables, charts, and diagrams • describe the relationship between two sets of related data such as ordered pairs in a table • 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"> • use patterns to multiply by 10 and 100 • 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 $81 \div 9 = 9$) • 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

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6.5	Prerequisite Skills/Links to TEKS Vertical Alignment
	<ul style="list-style-type: none">• 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• 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>(6.6) Geometry and spatial reasoning. The student uses geometric vocabulary to describe angles, polygons, and circles. The student is expected to</p> <ul style="list-style-type: none"> (A) use angle measurements to classify angles as acute, obtuse, or right; Supporting Standard (B) identify relationships involving angles in triangles and quadrilaterals; Supporting Standard (C) describe the relationship between radius, diameter, and circumference of a circle. Readiness Standard 	<p>Recognizes relationships involving geometric figures.</p>

6.6 Prerequisite Skills/Links to TEKS Vertical Alignment

	<p><i>Attributes of Geometric Figures</i></p> <ul style="list-style-type: none"> • identify essential attributes including parallel, perpendicular, and congruent parts of two- and three-dimensional geometric figures • use essential attributes to define two- and three-dimensional geometric figures • identify and describe parallel and intersecting (including perpendicular) lines using concrete objects and pictorial models • identify and describe right, acute, and obtuse angles • 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)
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6.6	Prerequisite Skills/Links to TEKS Vertical Alignment
	<ul style="list-style-type: none">• 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• 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 Expectation	Essence of TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectation
<p>(6.7) Geometry and spatial reasoning. The student uses coordinate geometry to identify location in two dimensions. The student is expected to</p> <p>(A) locate and name points on a coordinate plane using ordered pairs of non-negative rational numbers. Supporting Standard</p>	<p>Uses coordinate geometry to locate and name points.</p>
6.7 Prerequisite Skills/Links to TEKS Vertical Alignment	
<p><i>Working with Coordinate Planes</i></p> <ul style="list-style-type: none"> locate and name points on a coordinate grid using ordered pairs of whole numbers locate and name points on a number line using whole numbers, fractions such as halves and fourths, and decimals such as tenths 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 the transformation that generates one figure from the other when given two congruent figures on a Quadrant I coordinate grid sketch the results of translations, rotations, and reflections on a Quadrant I coordinate grid use reflections to verify that a shape has symmetry use translations, reflections, and rotations to verify that two shapes are congruent demonstrate translations, reflections, and rotations using concrete models 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>(6.8) Measurement. The student solves application problems involving estimation and measurement of length, area, time, temperature, volume, weight, and angles. The student is expected to</p> <ul style="list-style-type: none"> (A) estimate measurements (including circumference) and evaluate reasonableness of results; Supporting Standard (B) select and use appropriate units, tools, or formulas to measure and to solve problems involving length (including perimeter), area, time, temperature, volume, and weight; Readiness Standard (C) measure angles; Supporting Standard (D) convert measures within the same measurement system (customary and metric) based on relationships between units. Supporting Standard 	<p>Uses estimation, unit conversions, and measurement to solve problems.</p>

6.8 Prerequisite Skills/Links to TEKS Vertical Alignment

<p>6.8</p>	<p><i>Comparisons</i></p> <ul style="list-style-type: none"> • perform simple conversions within the same measurement system (SI (metric) or customary) • explain the difference between weight and mass • 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) <p><i>Using Models</i></p> <ul style="list-style-type: none"> • select and use appropriate units and formulas to measure length, perimeter, area, and volume • connect models for perimeter, area, and volume with their respective formulas
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Prerequisite Skills/Links to TEKS Vertical Alignment

- estimate volume in cubic units
- use concrete models of standard cubic units to measure volume
- perform simple conversions between different units of length, between different units of capacity, and between different units of weight within the customary measurement system
- estimate and use measurement tools to determine length (including perimeter), area, capacity, and weight/mass using standard units SI (metric) and customary
- 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

Time and Temperature

- solve problems involving elapsed time
- solve problems involving changes in temperature
- use tools such as a clock with gears or a stopwatch to solve problems involving elapsed time
- use a thermometer to measure temperature and changes in temperature
- 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

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6.8	Prerequisite Skills/Links to TEKS Vertical Alignment
	<ul style="list-style-type: none">• 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• 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 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>(6.9) Probability and statistics. The student uses experimental and theoretical probability to make predictions. The student is expected to</p> <ul style="list-style-type: none"> (A) construct sample spaces using lists and tree diagrams; Supporting Standard (B) find the probabilities of a simple event and its complement and describe the relationship between the two. Supporting Standard 	<p>Uses probability to make predictions.</p>

6.9 Prerequisite Skills/Links to TEKS Vertical Alignment

<p><i>Probability</i></p> <ul style="list-style-type: none"> • list all possible outcomes of a probability experiment such as tossing a coin • use experimental results to make predictions • use fractions to describe the results of an experiment <p><i>Working with Data</i></p> <ul style="list-style-type: none"> • graph a given set of data using an appropriate graphical representation such as a picture or line graph • use tables of related number pairs to make line graphs • interpret bar graphs • 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 • 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
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6.9	Prerequisite Skills/Links to TEKS Vertical Alignment
	<ul style="list-style-type: none">• 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.

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>(6.10) Probability and statistics. The student uses statistical representations to analyze data. The student is expected to</p> <p>(A) select and use an appropriate representation for presenting and displaying different graphical representations of the same data including line plot, line graph, bar graph, and stem and leaf plot; Supporting Standard</p> <p>(B) identify mean (using [concrete objects and] pictorial models), median, mode, and range of a set of data; Supporting Standard</p> <p>(C) sketch circle graphs to display data; Supporting Standard</p> <p>(D) solve problems by collecting, organizing, displaying, and interpreting data. Readiness Standard</p>	<p>Displays and solves problems using data.</p>

6.10 Prerequisite Skills/Links to TEKS Vertical Alignment

	<p><i>Working with Data</i></p> <ul style="list-style-type: none"> • graph a given set of data using an appropriate graphical representation such as a picture or line graph • use tables of related number pairs to make line graphs • interpret bar graphs • 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 • 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
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6.10	Prerequisite Skills/Links to TEKS Vertical Alignment
	<ul style="list-style-type: none">• 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 <p><i>Measures of Central Tendency</i></p> <ul style="list-style-type: none">• describe characteristics of data presented in tables and graphs including median, mode, and range

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

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.

TEKS Knowledge and Skills Statement/STAAR-Tested Student Expectations

(6.11) Underlying processes and mathematical tools. The student applies Grade 6 mathematics to solve problems connected to everyday experiences, investigations in other disciplines, and activities in and outside of school. The student is expected to

- (A) identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics;
- (B) use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness;
- (C) select or develop an appropriate problem-solving strategy from a variety of different types, 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) select tools such as real objects, manipulatives, paper/pencil, [and technology] or techniques such as mental math, estimation, and number sense to solve problems.

6.11

Prerequisite Skills/Links to TEKS Vertical Alignment

Solving Problems

- 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 Expectation</p>	
<p>(6.12) Underlying processes and mathematical tools. The student communicates about Grade 6 mathematics through informal and mathematical language, representations, and models. The student is expected to (A) communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models.</p>	
<p>6.12 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.

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.

TEKS Knowledge and Skills Statement/STAAR-Tested Student Expectations

(6.13) Underlying processes and mathematical tools. The student uses logical reasoning to make conjectures and verify conclusions. The student is expected to

- (A) make conjectures from patterns or sets of examples and nonexamples;
- (B) validate his/her conclusions using mathematical properties and relationships.

6.13 Prerequisite Skills/Links to TEKS Vertical Alignment

Mathematical Reasoning

- 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.