TEKS Curriculum Framework for STAAR Alternate 2

Grade 7 Mathematics

7.2 Prerequisite Skills/Links to TEKS Vertical Alignment

- compose and decompose numbers up to 10 with objects and picture

7.2 Prerequisite Skills/Links to TEKS Vertical Alignment

Comparing, Ordering, and Rounding Numbers Using Place Value

- order a set of rational numbers arising from mathematical and real-world contexts
- round decimals to tenths or hundredths
- compare and order two decimals to thousandths and represent comparisons using the symbols >, <, or =
- compare and order decimals using concrete and visual models to the hundredths
- round whole numbers to a given place value through the hundred thousands place
- compare and order whole numbers to 1,000,000,000 and represent comparisons using the symbols >, <, or =
- compare and order whole

Mathematics

7.3	Prerequisite Skills/Links to TEKS Vertical Alignment
	¥ recall facts to multiply up to 10 by 10 with automaticity and recall the corresponding division facts ¥ represent multiplication facts by using a variety of approaches such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line, ap.185 Ij9Tc[(a)-(vi56.0 Td (up)Tj 3 u)]TJ 0 0 Td ( )Tj 0.11 (a)Tj 10 0( )-95.4(5]TJ 0 0c331 0 Td (y)Tj 035) 1

STAAR Reporting Category 2 – Computations and Algebraic Relationships: The student will demonstrate an understanding of how to perform operations and represent algebraic relationships.	
TEKS Knowledge and Skills Statement/ STAAR -Tested Student Expectations	Essence of TEKS Knowledge and Skills Statement/ STAAR -Tested Student Expectations
(7.4) Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to (A) represent constant rates of change in mathematical and real-world problems given pictorial, tabular, verbal, numeric, graphical, and algebraic representations, including d = rt; Readiness Standard (B) calculate unit rates from rates in mathematical and real-world problems; Supporting Standard (C) determine the constant of proportionality (k = y/x) within mathematical and real-world problems; Supporting Standard (D) solve problems involving ratios, rates, and percents, including multi -step problems involving percent increase and percent decrease, and financial literacy problems. Readiness Standard	Solves problems involvi ng ratios, rates, or percents.

7.4	**Prerequisite Skills/Links to TEKS Vertical Alignment**
	Representing and Solving Algebraic Relationships ¥ determine if the given value(s) make(s) one-variable, one-step equations or inequalities true ¥ model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts ¥ write corresponding real -

7.4 Prerequisite Skills/Links to TEKS Vertical Alignment

7.4 Prerequisite Skills/Links to TEKS Vertical Alignment

- compare two fractions with different numerators and different denominators and represent the comparison using the symbols >, =, or <
- determine if two given fractions are equivalent using a variety of methods
- decompose a fraction in more than one way into a sum of fractions with the same denominator using concrete and pictorial models and recording results with symbolic representations
- represent a fraction a/b as a ca$a$

7.7	Prerequisite Skills/Links to TEKS Vertical Alignment

- represent real-world relationships using number pairs in a table and verbal descriptions
- determine the unknown whole number in a multiplication or division equation relating three whole numbers when the unknown is either a missing factor or product
- represent and solve

STAAR Reporting Category 2 – Computations and Algebraic Relationships: The student will demonstrate an understanding of how to perform operations and represent algebraic relationships.	
TEKS Knowledge and Skills Statement/ STAAR -Tested Student Expectations	
(7.10) Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations and inequalities to represent situations. The student is expected to (A) write one -variable, two -step equations and inequalities to	

7.10	Prerequisite Skills/Links to TEKS Vertical Alignment

- represent problems using an input-output table and numerical expressions to generate a number pattern that follows a given rule representing the relationship of the values in the resulting sequence and their position in the sequence
- re

STAAR Reporting Category 2 – Computations and Algebraic Relationships: The student will demonstrate an understanding of how to perform operations and represent algebraic relationships.	
TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectations	
(7.11)Expressions, equations, and relationships. The student applies mathematical process standards to so pe2pe757	

7.11	Prerequisite Skills/Links to TEKS Vertical Alignment
	¥ represent multi-step problems involving the four operations with whole numbers using strip diagrams and equations with a letter standing for the unknown quantity ¥ represent real-world relationships using number pairs in a table and verbal descriptions ¥ determine the unknown whole number in a multiplication or division equation relating three whole numbers when the unknown is either a missing factor or product ¥ represent and solve one- and two-step multiplication and division problems within 100 using arrays, strip diagrams, and equations ¥ represent one-and two-step problems involving addition and subtraction of whole numbers to 1,000 using pictorial models, number lines, and equations ¥ represent and solve addition and subtraction word problems where unknowns may be any one of the terms in the problem ¥ generate and solve problem situations for a given mathematical number sentence involving addition and subtraction of whole numbers within 1,000 ¥ determine the unknown whole number in an addition or subtraction equation when the unknown may be any one of the three or four terms in the equation ¥ understand that the equal sign represents a relationship where expressions on each side of the equal sign represent the same value(s) ¥ represent word problems involving addition and subtraction of whole numbers up to 20 using concrete and pictorial models and number sentences ¥ generate and solve problem situations when given a number sentence involving addition or subtraction of numbers within 20 Classification and patterns skills ¥ recognize and create patterns

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

7.4 Prerequisite Skills/Links to TEKS Vertical Alignment

STAAR Reporting Category 3 – Geometry and Measurement: The student will demonstrate an understanding of how to represent and apply geometry and measurement concepts.	
TEKS Knowledge and Skills Statement/ STAAR -Tested Student Expectations	Essence of TEKS Knowledge and Skills Statement/ STAAR -Tested Student Expectations
(7.5) Proportionality. The student applies mathematical process standards to use geometry to describe or solve problems involving proportional relationships. The student is expected to (A) generalize the critical attributes of similarity, incl uding ratios within and between similar shapes; Supporting Standard (B) describe" as the ratio of the circumference of a circle to its diameter; Supporting Standard (C) solve mathematical and real-world problems involving similar shape and scale drawings.Readiness Standard	Solves problems using proportional relationships for geometric figures.

7.5	**Prerequisite Skills/Links to TEKS Vertical Alignment**

7.5 Prerequisite Skills/Links to TEKS Vertical Alignment

- compose two-dimensional shapes by joining two, three, or four figures to produce a target shape in more than one way if possible
- identify three -dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes), and triangular prisms, and describe their attributes using formal geometric language
- identify two -dimensional shapes, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons, and describe their attributes using formal geometric language
- create two-dimensional figures, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons
- distinguish between attributes that de339 0 Tdh 0ble

STAAR Reporting Category 3 – Geometry and Measurement: The student will demonstrate an understanding of how to represent and apply geometry and measurement concepts.	
TEKS Knowledge and Skills Statement/ STAAR -Tested Student Expectations	Essence of TEKS Knowledge and Skills Statement/ STAAR -Tested Student Expectations
(7.9) Expressions, equations, and relationships. The student applies mathematical process standards to solve geometric problems. The student is expected to (A) solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids; Readiness Standard (B) determine the circumference and area of circles; Readiness Standard (C) determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles; Readiness Standard (D) solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shapeÕs net. Supporting Standard	Solves problems involving circumference, area, or volume of "two or three-dimensional geometric figures.

7.9	**Prerequisite Skills/Links to TEKS Vertical Alignment**
	Measuring Length, Area, Volume, and Weight/Mass ¥ determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles and volume of right rectangular prisms where dimensions are positive rational numbers ¥ write equations that represent problems related to the area of rectangles, parallelograms, trapezoids, and triangles and volume of right rectangular prisms where dimensions are positive rational numbers ¥ model area formulas for parallelograms, trapezoids, and triangles by decomposing and rearranging parts of these shapes ¥ convert units within a measurement system, including the use of proportions and unit rates ¥ solve problems

7.9 Prerequisite Skills/Links to TEKS Vertical Alignment

- use concrete objects and pictorial models to develop the formulas for the volume of a rectangular prism, including the special form for a cube ($V = l \times w \times h$, $V = s \times s \times s$, and $V = Bh$)
- solve problems that deal with measurements of length, intervals of time, liquid volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate
- convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table
- identify relative sizes of measurement units within the customary and metric systems
- solve problems related to perimeter and area of rectangles where dimensions are whole numbers
- use models to determine the formulas for the perimeter of a rectangle ($l + w + l + w$ or $2l + 2w$), including the special form for perimeter of a square ($4s$) and the area of a rectangle ($l \times w$)
- determine liquid volume (capacity) or weight using appropriate units and tools
- determine when it is appropriate to use measurements of liquid volume (capacity) or weight
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7.9 Prerequisite Skills/Links to TEKS Vertical Alignment

Measurement skills

- informally recognize and compare weights of objects or people
- recognize how much can be placed within an object
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7.11	Prerequisite Skills/Links to TEKS Vertical Alignment
	¥ give an example of a measurable attribute of a given object, including length, capacity, and weight Measurement skills ¥ 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 Representing and Solving Algebraic Relationships ¥ determine if the given value(s) make(s) one-variable, one-step equations or inequalities true ¥ model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts ¥ write corresponding real-world problems given one-variable, one-step equations or inequalities ¥ represent solutions for one-variable, one-step equations and inequalities on number lines ¥ write one-variable, one-step equations and inequalities to represent constraints or conditions within problems ¥ represent a given situation using verbal descriptions, tables, graphs, and equations in the form $y = kx$ or $y = x + b$ ¥ write an equation that represents the relationship between independent and dependent quantities from a table ¥ identify independent and dependent quantities from tables and graphs ¥ solve real-world problems to find the whole given a part and the percent, to find the part given the whole and the percent, and to find the percent given the part and the whole, including the use of concrete and pictorial models ¥ represent mathematical and real-world problems involving ratios and rates using scale factors, tables, graphs, and proportions ¥ apply qualitative and quantitative reasoning to solve prediction and comparison of real-world problems involving ratios and rates ¥ compare two rules verbally, numerically, graphically, and symbolically in the form of $y = ax$ or $y = x + a$ in order to differentiate between additive and multiplicative relationships ¥ recognize the difference between additive and multiplicative numerical patterns given in a table or graph ¥ generate a numerical pattern when given a rule in the form $y = ax$ or $y = x + a$

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7.11	Prerequisite Skills/Links to TEKS Vertical Alignment
	¥ represent and solve addition and subtraction word problems where unknowns may be any one of the terms in the problem ¥ generate and solve problem situations for a given mathematical number sentence involving addition and subtraction of whole numbers within 1,000 ¥ determine the unknown whole number in an addition or subtraction equation when the unknown may be any one of the three or four terms in the equation ¥ understand that the equal sign represents a relationship where expressions on each side of the equal sign represent the same value(s) ¥ represent word problems involving addition and subtraction of whole numbers up to 20 using concrete and pictorial models and number sentences ¥ generate and solve problem situations when given a number sentence involving addition or subtraction of numbers within 20 Classification and patterns skills ¥ 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 4 – Data Analysis and Personal Financial Literacy: The student will demonstrate an understanding of how to represent and analyze data and how to describe and apply personal financial concepts.	
TEKS Knowledge and Skills Statement/ STAAR -Tested Student Expectations	Essence of TEKS Knowledge and Skills Statement/ STAAR -Tested Student Expectation
(7.6) Proportionality. The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. T he student is expected to (G) solve problems using data represented in bar graphs, dot plots, and circle graphs, including part -to-whole and part -to-part comparisons and equivalents. Readiness Standard	Solves problems using data represented in graphs.

7.6	**Prerequisite Skills/Links to TEKS Vertical Alignment**
	Using Data ¥ distinguish between situations that yield data with and without variability ¥ interpret numeric data summarized in dot plots, stem -and-leaf plots, histograms, and box plots ¥ solve one- and two -step problems using data from a frequency table, dot plot, bar graph, stem-and-leaf plot, or scatterplot ¥ solve one- and two -step problems using data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem -and- leaf plot ¥ solve one- and two -step problems using categorical data represented with a frequency table, dot plot, pictograph, or bar graph with scaled intervals ¥ draw conclusions and make predictions from information in a graph ¥ write and solve one -step word problems involving addition or subtraction using data represented within pictographs and bar graphs with intervals of one ¥ draw conclusions and generate and answer questions using information from picture and bar -

7.6	Prerequisite Skills/Links to TEKS Vertical Alignment

- represent equivalent fractions with denominators of 2, 3, 4, 6, and 8 using a variety of objects and pictorial models, including number lines
- solve problems involving partitioning an object or a set of objects among two or more recipients using pictorial representations of fractions with denominators of 2, 3, 4, 6, and 8
- compose and decompose a fraction a/ b with a numerator greater than zero and less than or equal to b as a sum of parts 1/ b
- explain that the un[(t)2(th)-5(e)-3( )]xerTJ 0(p)TT5 1 T0.0089 Tco0.002770 Td (at)Tj .0089 T4Lat

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7.12	Prerequisite Skills/Links to TEKS Vertical Alignment
	¥ summarize numeric data with numerical summaries, including the mean and median (measures of center) and the range and interquartile range (IQR) (measures of spread), and use these summaries to describe the center, spread, and shape of the data distribution ¥ use the graphical representation of numeric data to describe the center, spread, and shape of the data distribution ¥ represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots ¥ represent discrete paired data on a scatterplot ¥ represent categorical data with bar graphs or frequency tables and numerical data, including data sets of measurements in fractions or decimals, with dot plots or stem-and-leaf plots ¥ represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions ¥ summarize a data set with multiple categories using a frequency table, dot plot, pictograph, or bar graph with scaled intervals ¥ organize a collection of data with up to four categories using pictographs and bar graphs with intervals of one or more ¥ explain that the length of a bar in a bar graph or the number of pictures in a pictograph represents the number of data points for a given category ¥ use data to create picture and bar-type graphs ¥ collect, sort, and organize data in up to three categories using models/ representations such as tally marks or T-charts ¥ use data to create real-object and picture graphs ¥ collect, sort, and organize data into two or three categories Classification and patterns skills ¥ 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.

7.13 Prerequisite Skills/Links to TEKS Vertical Alignment

- explain the connection between human capital/labor and income
- identify income as a means of obtaining goods and services, oftentimes making choices between wants and needs
- define money earned as income
- distinguish between wants and needs and identify income as a source to meet one's wants and needs
- list simple skills required for jobs
- differentiate between money rece rece

7.13