TTUISD - TEKS Tracker

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TTUISD: Math, Grade 3: MATH 3B, Second Semester (v.4.0)

TEKS: §111.1 - Mathematics, Elementary

***Texas GoMath!, Grade 3* . (2015) Houghton Mifflin Harcourt**

TEKS Requirement (Elementary)		Sem. B	Lesson #	Textbook Chapter/Page #	Bloom's Taxonomy
TEKS: §111.5 - Grade 4 Mathematics, Adopted 2012					
(a) Introduction.					
(1) The desire to achieve educational excellence is the driving force behind the Texas essential knowledge and skills for mathematics, guided by the college and career readiness standards. By embedding statistics, probability, and finance, while focusing on computational thinking, mathematical fluency, and solid understanding, Texas will lead the way in mathematics education and prepare all Texas students for the challenges they will face in the 21st century.					
(2) The process standards describe ways in which students are expected to engage in the content. The placement of the process standards at the beginning of the knowledge and skills listed for each grade and course is intentional. The process standards weave the other knowledge and skills together so that students may be successful problem solvers and use mathematics efficiently and effectively in daily life. The process standards are integrated at every grade level and course. When possible, students will apply mathematics to problems arising in everyday life, society, and the workplace. Students will use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution. Students will select appropriate tools such as real objects, manipulatives, algorithms, paper and pencil, and technology and techniques such as mental math, estimation, number sense, and generalization and abstraction to solve problems. Students will effectively communicate mathematical ideas, reasoning, and their implications using multiple representations such as symbols, diagrams, graphs, computer programs, and language. Students will use mathematical relationships to generate solutions and make connections and predictions. Students will analyze mathematical relationships to connect and communicate mathematical ideas. Students will display, explain, or justify mathematical ideas and arguments using precise mathematical language in written or oral communication.					
(3) For students to become fluent in mathematics, students must develop a robust sense of number. The National Research Council's report, "Adding It Up," defines procedural fluency as "skill in carrying out procedures flexibly, accurately, efficiently, and appropriately." As students develop procedural fluency, they must also realize that true problem solving may take time, effort, and perseverance. Students in Grade 3 are expected to perform their work without the use of calculators.					
(4) The primary focal areas in Grade 3 are place value, operations of whole numbers, and understanding fractional units. These focal areas are supported throughout the mathematical strands of number and operations, algebraic reasoning, geometry and measurement, and data analysis. In Grades 3-5, the number set is limited to positive rational numbers. In number and operations, students will focus on applying place value, comparing and ordering whole numbers, connecting multiplication and division, and understanding and representing fractions as numbers and equivalent fractions. In algebraic reasoning, students will use multiple representations of problem situations, determine missing values in number sentences, and represent real-world relationships using number pairs in a table and verbal descriptions. In geometry and measurement, students will identify and classify two-dimensional figures according to common attributes, decompose composite figures formed by rectangles to determine area, determine the perimeter of polygons, solve problems involving time, and measure liquid volume (capacity) or weight. In data analysis, students will represent and interpret data.					
(5) Statements that contain the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.					
(b) Knowledge and skills.					
(1) Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:					

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(A) apply mathematics to problems arising in everyday life, society, and the workplace;		**B**	all modules		
(B) use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution and evaluating the problem-solving process and the reasonableness of the solution;		**B**	all modules		
(C) select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems;		**B**	all modules		
(D) communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;		**B**	all modules		
(E) create and use representations to organize, record, and communicate mathematical ideas;		**B**	all modules		
(F) analyze mathematical relationships to connect and communicate mathematical ideas; and		**B**	all modules		
(G) display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.		**B**	all modules		
(2) Number and operations. The student applies mathematical process standards to represent and compare whole numbers and understand relationships related to place value. The student is expected to:					
(A) interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left;		**B**	See semester A		
(B) represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals;		**B**	See semester A		
(C) compare and order whole numbers to 1,000,000,000 and represent comparisons using the symbols >, <, or =;		**B**	See semester A		
(D) round whole numbers to a given place value through the hundred thousands place;		**B**	See semester A		
(E) represent decimals, including tenths and hundredths, using concrete and visual models and money;			See semester A		
(F) compare and order decimals using concrete and visual models to the hundredths;		**B**	See semester A		
(G) relate decimals to fractions that name tenths and hundredths; and		**B**	See semester A		
(H) determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line.		**B**	See semester A		
(3) Number and operations. The student applies mathematical process standards to represent and explain fractional units. The student is expected to:		**B**			
(A) represent a fraction a/b as a sum of fractions 1/b, where a and b are whole numbers and b > 0, including when a > b;		**B**	3.5		
(B) 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;		**B**	3.5, 3.6		
(C) determine if two given fractions are equivalent using a variety of methods;		**B**	3.1-3.4		
(D) compare two fractions with different numerators and different denominators and represent the comparison using the symbols >, =, or <;		**B**	4.1-4.3		
(E) represent and solve addition and subtraction of fractions with equal denominators using objects and pictorial models that build to the number line and properties of operations;			5.1-5.6		
(F) evaluate the reasonableness of sums and differences of fractions using benchmark fractions 0, 1/4, 1/2, 3/4, and 1, referring to the same whole; and		**B**	5.4		
(G) represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.		**B**	4.3		
(4) Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations in order to solve problems with efficiency and accuracy. The student is expected to:		**B**			
(A) add and subtract whole numbers and decimals to the hundredths place using the standard algorithm;		**B**	See semester A		
(B) determine products of a number and 10 or 100 using properties of operations and place value understandings;		**B**	See semester A		
(C) represent the product of 2 two-digit numbers using arrays, area models, or equations, including perfect squares through 15 by 15;		**B**	See semester A		

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(D) use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties;		**B**	See semester A		
(E) represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays, area models, or equations;		**B**	See semester A		
(F) use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor;		**B**	See semester A		
(G) round to the nearest 10, 100, or 1,000 or use compatible numbers to estimate solutions involving whole numbers; and		**B**	See semester A		
(H) solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders.		**B**	See semester A		
(5) Algebraic reasoning. The student applies mathematical process standards to analyze and create patterns and relationships. The student is expected to:					
(A) represent multi-step problems involving the four operations with whole numbers using strip diagrams and equations with a letter standing for the unknown quantity;		**B**	11.1-11.4		
(B) 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;		**B**	12.1-12.2		
(C) 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 x w); and		**B**	12.3-12.4		
(D) solve problems related to perimeter and area of rectangles where dimensions are whole numbers.		**B**	12.3-12.5		
(6) Geometry and measurement. The student applies mathematical process standards to analyze attributes of two-dimensional geometric figures to develop generalizations about their properties. The student is expected to:		**B**			
(A) identify points, lines, line segments, rays, angles, and perpendicular and parallel lines;			13.1, 13.3		
(B) identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure;		**B**	13.5-13.6		
(C) apply knowledge of right angles to identify acute, right, and obtuse triangles; and;		**B**	13.2		
(D) classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size.		**B**	13.3, 13.4		
(7) Geometry and measurement. The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving customary and metric measurement. The student is expected to:		**B**			
(A) illustrate the measure of an angle as the part of a circle whose center is at the vertex of the angle that is "cut out" by the rays of the angle. Angle measures are limited to whole numbers;		**B**	14.2		
(B) illustrate degrees as the units used to measure an angle, where 1/360 of any circle is one degree and an angle that "cuts" n/360 out of any circle whose center is at the angle's vertex has a measure of n degrees. Angle measures are limited to whole numbers;			14.2		
(C) determine the approximate measures of angles in degrees to the nearest whole number using a protractor;		**B**	14.3-14.4		
(D) draw an angle with a given measure; and		**B**	14.3		
(E) determine the measure of an unknown angle formed by two non-overlapping adjacent angles given one or both angle measures.		**B**	14.4-14.5		
(8) Geometry and measurement. The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement. The student is expected to:		**B**			
(A) identify relative sizes of measurement units within the customary and metric systems;		**B**	15.1-15.4, 15.6		
(B) 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; and			15.2-15.4, 15.6-15.7		
(C) solve problems that deal with measurements of length, intervals of time, liquid volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate.		**B**	15.7		
(9) Data analysis. The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. The student is expected to:		**B**			

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(A) represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions; and			See semester A		
(B) 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.		**B**	See semester A		
(10) Personal financial literacy. The student applies mathematical process standards to manage one's financial resources effectively for lifetime financial security. The student is expected to:		**B**			
(A) distinguish between fixed and variable expenses;		**B**	18.1		
(B) calculate profit in a given situation;		**B**	18.2		
(C) compare the advantages and disadvantages of various savings options;		**B**	18.3		
(D) describe how to allocate a weekly allowance among spending; saving, including for college; and sharing; and		**B**	18.4		
(E) describe the basic purpose of financial institutions, including keeping money safe, borrowing money, and lending.			18.5		
Source: The provisions of this §111.5 adopted to be effective September 10, 2012, 37 TexReg 7109; amended to be effective October 15, 2013, 38 TexReg 7112.					