

# EVERY DAY COUNTS

## ALGEBRA READINESS © 2006

correlated to

# Texas

# Essential Knowledge and Skills for Mathematics Grade 6

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EDUCATION GROUP



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***Every Day Counts Algebra Readiness Kit***  
**correlated to**  
**Texas Essential Knowledge and Skills for Mathematics**  
**Grade 6**

Texas Essential Knowledge and Skills for Mathematics, Grade 6	<i>Every Day Counts Algebra Readiness Kit</i>
<b>(b) Knowledge and skills.</b>	
<b>(6.1) Number, operation, and quantitative reasoning.</b> The student represents and uses rational numbers in a variety of equivalent forms. The student is expected to:	
(A) compare and order non-negative rational numbers;	TG: 24-25, 26-27, 28-30, 55-56, 72-73, 91-92, 109
(B) generate equivalent forms of rational numbers including whole numbers, fractions, and decimals;	TG: 30, 42-43, 55-56, 72-73, 91-92, 109, 125
(C) use integers to represent real-life situations;	TG: 131-132, 133-134, 154-155, 156-158, 164-166
(D) write prime factorizations using exponents;	TG: 54, 71-72
(E) identify factors of a positive integer, common factors, and the greatest common factor of a set of positive integers; and	TG: 24-26, 27-28, 41-42, 56-54, 71-72, 88-91
(F) identify multiples of a positive integer and common multiples and the least common multiple of a set of positive integers.	TG: 26-28
<b>(6.2) Number, operation, and quantitative reasoning.</b> The student adds, subtracts, multiplies, and divides to solve problems and justify solutions. The student is expected to:	
(A) model addition and subtraction situations involving fractions with objects, pictures, words, and numbers;	TG: 28-30, 55-57, 72-73, 91-92, 125
(B) use addition and subtraction to solve problems involving fractions and decimals;	TG: 28-30, 55-57, 125

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(C) use multiplication and division of whole numbers to solve problems including situations involving equivalent ratios and rates;	TG: 43-44, 75-76, 78-80, 88-91, 117-118, 136, 189
(D) estimate and round to approximate reasonable results and to solve problems where exact answers are not required; and	TG: 36, 37, 100, 121, 136
(E) use order of operations to simplify whole number expressions (without exponents) in problem solving situations.	TG: 44
<b>(6.3) Patterns, relationships, and algebraic thinking.</b> The student solves problems involving direct proportional relationships. The student is expected to:	
(A) use ratios to describe proportional situations;	TG: 177-178, 179-180
(B) represent ratios and percents with concrete models, fractions, and decimals; and	TG: 28-30, 42-43, 55-57, 72-73, 91-92, 109, 145, 167-169, 179
(C) use ratios to make predictions in proportional situations.	TG: 178-180
<b>(6.4) Patterns, relationships, and algebraic thinking.</b> 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:	
(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; and	TG: 30, 33, 44, 45, 60-62, 63, 114-116, 117, 135-136, 137-139, 177-180
(B) use tables of data to generate formulas representing relationships involving perimeter, area, volume of a rectangular prism, etc.	TG: 114-116, 135-136, 186-187
<b>(6.5) Patterns, relationships, and algebraic thinking.</b> The student uses letters to represent an unknown in an equation.	
(A) The student is expected to formulate equations from problem situations described by linear relationships.	TG: 35, 45-46, 79, 164-166

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<b>(6.6) Geometry and spatial reasoning.</b> The student uses geometric vocabulary to describe angles, polygons, and circles. The student is expected to:	
(A) use angle measurements to classify angles as acute, obtuse, or right;	TG: 128-130
(B) identify relationships involving angles in triangles and quadrilaterals; and	TG: 51, 128
(C) describe the relationship between radius, diameter, and circumference of a circle.	TG: 58, 110-114, 135-136
<b>(6.7) Geometry and spatial reasoning.</b> The student uses coordinate geometry to identify location in two dimensions.	
(A) The student is expected to locate and name points on a coordinate plane using ordered pairs of non-negative rational numbers.	The opportunity to address this objective is available. See the following: TG: 97-98, 122-124
<b>(6.8) Measurement.</b> The student solves application problems involving estimation and measurement of length, area, time, temperature, volume, weight, and angles. The student is expected to:	
(A) estimate measurements (including circumference) and evaluate reasonableness of results;	This objective falls outside the scope of Great Source <i>Every Day Counts Algebra Readiness Kit</i> .
(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;	TG: 30-33, 43-44, 60-62, 95, 114-116, 117-120, 135-136, 137-139, 186-189
(C) measure angles; and	The opportunity to address this objective is available. See the following: TG: 57-59, 128-130
(D) convert measures within the same measurement system (customary and metric) based on relationships between units.	TG: 125, 166-169

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<b>(6.9) Probability and statistics.</b> The student uses experimental and theoretical probability to make predictions. The student is expected to:	
(A) construct sample spaces using lists and tree diagrams; and	TG: 159-161, 175-177
(B) find the probabilities of a simple event and its complement and describe the relationship between the two.	TG: 159-161, 175-177
<b>(6.10) Probability and statistics.</b> The student uses statistical representations to analyze data. The student is expected to:	
(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;	TG: 101-103, 122-124, 182-185
(B) identify mean (using concrete objects and pictorial models), median, mode, and range of a set of data;	TG: 82-83, 101-103
(C) sketch circle graphs to display data; and	TG: 142-145
(D) solve problems by collecting, organizing, displaying, and interpreting data.	TG: 82-83, 101-103, 142-145, 161, 182-185
<b>(6.11) Underlying processes and mathematical tools.</b> 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;	TG: 35-37, 81-83, 98-101, 111, 112, 114, 120-122, 137-139, 182-183
(B) use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness;	TG: 24-26, 54, 60-62, 137-139

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(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; and	TG: 24-26, 30-33, 40-41, 54, 60-62, 106-108, 114-116, 137-139, 158
(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.	TG: 25-26, 35-37, 63-65, 73, 78-81, 92, 98-101, 109, 117-120, 121, 146-147, 154-158, 162-163, 166-169, 177-180
<b>(6.12) Underlying processes and mathematical tools.</b> 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; and	TG: 30-33, 43-44, 60-62, 95, 97, 98, 108, 114-116, 117, 122-124, 133-134, 135-136, 137-139, 144
(B) evaluate the effectiveness of different representations to communicate ideas.	TG: 142-145
<b>(6.13) Underlying processes and mathematical tools.</b> 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; and	TG: 25, 27, 32-33, 107-108
(B) validate his/her conclusions using mathematical properties and relationships.	TG: 28-30, 31-32, 33-35, 43-44, 60-62



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