

**Texas Essential Knowledge and Skills for Mathematics
Correlated to**

**Academic Language Notebooks
The Language of Math
Grade 5**

Texas Essential Knowledge and Skills	Module Number and Name
111.17. Mathematics, Grade 5.	
Knowledge and skills.	
(5.1) Number, operation, and quantitative reasoning. The student uses place value to represent whole numbers and decimals.	1. Place Value of Whole Numbers and Decimals
The student is expected to:	
(A) use place value to read, write, compare, and order whole numbers through the 999,999,999,999; and	2. Compare and Order Whole Numbers and Decimals
(B) use place value to read, write, compare, and order decimals through the thousandths place.	2. Compare and Order Whole Numbers and Decimals
(5.2) Number, operation, and quantitative reasoning. The student uses fractions in problem-solving situations.	
The student is expected to:	
(A) generate a fraction equivalent to a given fraction such as $\frac{1}{2}$ and $\frac{3}{6}$ or $\frac{4}{12}$ and $\frac{1}{3}$;	12. Equivalent Fractions and Simplest Form 14. Add and Subtract Fractions with Unlike Denominators
(B) generate a mixed number equivalent to a given improper fraction or generate an improper fraction equivalent to a given mixed number;	11. Fraction and Mixed Number Concepts 13. Compare and Order Fractions
(C) compare two fractional quantities in problem-solving situations using a variety of methods, including common denominators; and	
(D) use models to relate decimals to fractions that name tenths, hundredths, and thousandths.	
(5.3) Number, operation, and quantitative reasoning. The student adds, subtracts, multiplies, and divides to solve meaningful problems.	
The student is expected to:	
(A) use addition and subtraction to solve problems involving whole numbers and decimals;	4. Properties of Addition
(B) use multiplication to solve problems involving whole numbers (no more than three digits times two digits without technology);	6. Patterns and Estimation in Multiplication 7. Properties of Multiplication 27. Percent
(C) 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;	8. Patterns and Estimation in Division 15. Divide Fractions
(D) identify common factors of a set of whole numbers; and	9. Factors and Divisibility 10. Common Factors and Common Multiples
(E) model situations using addition and/or subtraction involving fractions with like denominators using concrete objects, pictures, words, and numbers.	

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(5.4) Number, operation, and quantitative reasoning. The student estimates to determine reasonable results.	3. Round Whole Numbers and Decimals 5. Estimate Whole Numbers and Decimals
The student is expected to use strategies, including rounding and compatible numbers to estimate solutions to addition, subtraction, multiplication, and division problems.	
(5.5) Patterns, relationships, and algebraic thinking. The student makes generalizations based on observed patterns and relationships.	
The student is expected to:	
(A) describe the relationship between sets of data in graphic organizers such as lists, tables, charts, and diagrams; and	
(B) identify prime and composite numbers using concrete objects, pictorial models, and patterns in factor pairs.	30. Functions and Ordered Pairs
(5.6) Patterns, relationships, and algebraic thinking. The student describes relationships mathematically.	
The student is expected to select from and use diagrams and equations such as $y = 5 + 3$ to represent meaningful problem situations.	
(5.7) Geometry and spatial reasoning. The student generates geometric definitions using critical attributes.	16. Points, Lines, Rays, and Angles 17. Triangles, Polygons, and Quadrilaterals 20. Solid Figures
The student is expected to identify essential attributes including parallel, perpendicular, and congruent parts of two- and three-dimensional geometric figures.	
(5.8) Geometry and spatial reasoning. The student models transformations.	18. Congruence, Transformations, and Symmetry
The student is expected to:	
(A) sketch the results of translations, rotations, and reflections on a Quadrant I coordinate grid; and	
(B) identify the transformation that generates one figure from the other when given two congruent figures on a Quadrant I coordinate grid.	
(5.9) Geometry and spatial reasoning. The student recognizes the connection between ordered pairs of numbers and locations of points on a plane.	
The student is expected to locate and name points on a coordinate grid using ordered pairs of whole numbers.	
(5.10) Measurement. The student applies measurement concepts involving length (including perimeter), area, capacity/volume, and weight/mass to solve problems.	
The student is expected to:	
(A) perform simple conversions within the same measurement system (SI (metric) or customary);	21. Customary and Metric Measurement of Length, Weight/Mass, and Capacity
(B) connect models for perimeter, area, and volume with their respective formulas; and	22. Perimeter and Circumference
(C) select and use appropriate units and formulas to measure length, perimeter, area, and volume.	23. Area, Surface Area, and Volume

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(5.11) Measurement. The student applies measurement concepts. The student measures time and temperature (in degrees Fahrenheit and Celsius).	
The student is expected to:	
(A) solve problems involving changes in temperature; and	
(B) solve problems involving elapsed time.	
(5.12) Probability and statistics. The student describes and predicts the results of a probability experiment.	
The student is expected to:	
(A) use fractions to describe the results of an experiment;	
(B) use experimental results to make predictions; and	24. Make and Read Graphs
(C) list all possible outcomes of a probability experiment such as tossing a coin.	
(5.13) Probability and statistics. The student solves problems by collecting, organizing, displaying, and interpreting sets of data.	
The student is expected to:	
(A) use tables of related number pairs to make line graphs;	
(B) describe characteristics of data presented in tables and graphs including median, mode, and range; and	25. Statistics and Data Analysis
(C) graph a given set of data using an appropriate graphical representation such as a picture or line graph.	28. Probability
(5.14) Underlying processes and mathematical tools. The student applies Grade 5 mathematics to solve problems connected to everyday experiences and activities in and outside of school.	
The student is expected to:	
(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; and	
(D) use tools such as real objects, manipulatives, and technology to solve problems.	
(5.15) Underlying processes and mathematical tools. The student communicates about Grade 5 mathematics using informal language.	
The student is expected to:	
(A) explain and record observations using objects, words, pictures, numbers, and technology; and	
(B) relate informal language to mathematical language and symbols.	
(5.16) 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; and	
(B) justify why an answer is reasonable and explain the solution process.	