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correlated to

**Virginia**

**Mathematics Standards  
of Learning  
Grades 5-6**

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correlated to

## Virginia Mathematics Standards of Learning Grade 5

### Number and Number Sense

Standards of Learning, Grade 5	ACCESS Math
5.1 The student will a) read, write, and identify the place values of decimals through thousandths;	<b>Student Book:</b> 60, 61, 62, 63, 64
b) round decimal numbers to the nearest tenth or hundredth; and	<b>Student Book:</b> 62, 63, 64
c) compare the values of two decimals through thousandths, using the symbols $>$ , $<$ , or $=$ .	<b>Student Book:</b> 65, 66, 68
5.2 The student will a) recognize and name commonly used fractions (halves, fourths, fifths, eighths, and tenths) in their equivalent decimal form and vice versa; and	<b>Student Book:</b> 141, 142, 143, 144, 145
b) order a given set of fractions and decimals from the least to greatest. Fractions will include like and unlike denominators limited to 12 or less, and mixed numbers.	<b>Student Book:</b> 67, 68, 69, 114, 115, 116, 117, 118

## Computation and Estimation

Standards of Learning, Grade 5	ACCESS Math
5.3 The student will create and solve problems involving addition, subtraction, multiplication, and division of whole numbers, using paper and pencil, estimation, mental computation, and calculators.	<b>Student Book:</b> 31, 32, 33, 34, 35, 36, 37, 39, 42, 44, 46, 58, 59, 80, 81, 103, 210, 211
5.4 The student will find the sum, difference, and product of two numbers expressed as decimals through thousandths, using an appropriate method of calculation, including paper and pencil, estimation, mental computation, and calculators.	<b>Student Book:</b> 70, 71, 72, 73, 74, 75, 76, 78, 79
5.5 The student, given a dividend of four digits or fewer and a divisor of two digits or fewer, will find the quotient and remainder.	<b>Student Book:</b> 77, 78
5.6 The student, given a dividend expressed as a decimal through thousandths and a single-digit divisor, will find the quotient.	<b>Student Book:</b> 77, 78
5.7 The student will add and subtract with fractions and mixed numbers, with and without regrouping, and express answers in simplest form. Problems will include like and unlike denominators limited to 12 or less.	<b>Student Book:</b> 119, 120, 121, 122, 123, 124, 125, 126, 127, 128

## Measurement

Standards of Learning, Grade 5	ACCESS Math
5.8 The student will describe and determine the perimeter of a polygon and the area of a square, rectangle, and right triangle, given the appropriate measures.	<b>Student Book:</b> 212, 213, 214, 215, 216
5.9 The student will identify and describe the diameter, radius, chord, and circumference of a circle.	<b>Student Book:</b> 217, 218, 219, 220, 221
5.10 The student will differentiate between perimeter, area, and volume and identify whether the application of the concept of perimeter, area, or volume is appropriate for a given situation.	<b>Student Book:</b> 212, 213, 214, 215, 216, 227, 228, 229, 230, 231, 232, 233

<b>Standards of Learning, Grade 5</b>	<b>ACCESS Math</b>
5.11 The student will choose an appropriate measuring device and unit of measure to solve problems involving measurement of  a) length—part of an inch ( $\frac{1}{2}$ , $\frac{1}{4}$ , and $\frac{1}{8}$ ), inches, feet, yards, miles, millimeters, centimeters, meters, and kilometers;	<b>Student Book:</b> 34, 67, 73, 113, 115, 116, 123, 127, 128, 129
b) weight/mass—ounces, pounds, tons, grams, and kilograms;	<b>Student Book:</b> 46, 57, 68, 126
c) liquid volume—cups, pints, quarts, gallons, milliliters, and liters;	<b>Student Book:</b> 109, 110, 111, 112, 118, 121
d) area—square units; and	<b>Student Book:</b> 214, 215, 216
e) temperature—Celsius and Fahrenheit units.	<b>Student Book:</b> 257, 259, 281
5.12 The student will determine an amount of elapsed time in hours and minutes within a 24-hour period.	<b>Student Book:</b> 117, 135
5.13 The student will measure and draw right, acute, and obtuse angles and triangles, using appropriate tools.	<b>Student Book:</b> 182, 184, 189

## G e o m e t r y

<b>Standards of Learning, Grade 5</b>	<b>ACCESS Math</b>
5.14 The student will classify angles and triangles as right, acute, and obtuse.	<b>Student Book:</b> 182, 183, 184, 187, 188, 189
5.15 The student, using two-dimensional (plane) figures (square, rectangle, triangle, parallelogram, rhombus, kite, and trapezoid) will  a) recognize, identify, describe, and analyze their properties in order to develop definitions of these figures;	<b>Student Book:</b> 47, 187, 188, 189, 190, 191, 192, 193, 194

<b>Standards of Learning, Grade 5</b>	<b>ACCESS Math</b>
b) identify and explore congruent, noncongruent, and similar figures;	<b>Student Book:</b> 195, 196, 197, 198, 199, 200, 201, 202, 203, 204
c) investigate and describe the results of combining and subdividing shapes;	<b>Student Book:</b> 204, 207, 214, 216
d) identify and describe a line of symmetry; and	<b>Student Book:</b> 204, 208
e) recognize the images of figures resulting from geometric transformations such as translation (slide), reflection (flip), or rotation (turn).	<b>Student Book:</b> 205, 206, 208, 209
5.16 The student will identify, compare, and analyze properties of three-dimensional (solid) geometric shapes (cylinder, cone, cube, square pyramid, and rectangular prism).	<b>Student Book:</b> 222, 223, 224, 225, 226

## Probability and Statistics

<b>Standards of Learning, Grade 5</b>	<b>ACCESS Math</b>
5.17 The student will a) solve problems involving the probability of a single event by using tree diagrams or by constructing a sample space representing all possible results;	<b>Student Book:</b> 234, 235, 236, 237, 238, 244, 245, 247, 248, 250, 251, 253
b) predict the probability of outcomes of simple experiments, representing it with fractions or decimals from 0 to 1, and test the prediction; and	<b>Student Book:</b> 238, 239, 240, 241, 242, 243
c) create a problem statement involving probability and based on information from a given problem situation. Students will not be required to solve the created problem statement.	<b>Student Book:</b> 238, 243, 246
5.18 The student will, given a problem situation, collect, organize, and display a set of numerical data in a variety of forms, using bar graphs, stem-and-leaf plots, and line graphs, to draw conclusions and make predictions.	<b>Student Book:</b> 163, 164, 166, 167, 168, 169, 170, 171, 173, 174, 176, 177

Standards of Learning, Grade 5	ACCESS Math
5.19 The student will find the mean, median, mode, and range of a set of data.	<b>Student Book:</b> 165, 166, 167

## Patterns, Functions, and Algebra

Standards of Learning, Grade 5	ACCESS Math
5.20 The student will analyze the structure of numerical and geometric patterns (how they change or grow) and express the relationship, using words, tables, graphs, or a mathematical sentence. Concrete materials and calculators will be used.	<b>Student Book:</b> 45, 46, 58, 59, 266, 267, 273, 274, 275
5.21 The student will	<b>Student Book:</b> 40, 41, 43, 44, 45, 46, 47, 48, 49, 50, 52, 53, 54, 55, 278, 279, 280, 285, 288
a) investigate and describe the concept of variable;	
b) use a variable expression to represent a given verbal quantitative expression involving one operation; and	<b>Student Book:</b> 40, 41, 43, 44, 45, 46, 47
c) write an open sentence to represent a given mathematical relationship, using a variable.	<b>Student Book:</b> 51, 52, 54, 55, 56, 276, 277, 279, 280, 281, 282
5.22 The student will create a problem situation based on a given open sentence using a single variable.	<b>Student Book:</b> 52, 282



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## Virginia Mathematics Standards of Learning Grade 6

### Number and Number Sense

Standards of Learning, Grade 6	ACCESS Math
6.1 The student will identify representations of a given percent and describe orally and in writing the equivalence relationships among fractions, decimals, and percents.	<b>Student Book:</b> 141, 142, 143, 144, 145
6.2 The student will describe and compare two sets of data, using ratios, and will use the appropriate notations, such as $a/b$ , $a$ to $b$ , and $a:b$ .	<b>Student Book:</b> 136, 137, 138, 139, 140
6.3 The student will:	<b>Student Book:</b> 92, 93, 94, 95, 96, 97, 98, 99, 100, 101
a) find common multiples and factors, including least common multiple and greatest common factor;	
b) identify and describe prime and composite numbers; and	<b>Student Book:</b> 87, 88, 90, 91
c) identify and describe the characteristics of even and odd integers.	<b>Student Book:</b> 90
6.4 The student will compare and order whole numbers, fractions, and decimals, using concrete materials, drawings, or pictures, and mathematical symbols.	<b>Student Book:</b> 18, 19, 20, 65, 66, 67, 68, 69, 114, 115, 116, 117, 118
6.5 The student will identify, represent, order and compare integers.	<b>Student Book:</b> 256, 257, 258, 259, 260

## Computation and Estimation

Standards of Learning, Grade 6	ACCESS Math
<p>6.6 The student will:</p> <p>a) solve problems that involve addition, subtraction, multiplication and/or division with fractions and mixed numbers, with and without regrouping, that include like and unlike denominators of 12 or less, and express their answers in simplest form; and</p>	<p><b>Student Book:</b> 120, 121, 122, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134</p>
<p>b) find the quotient, given a dividend expressed as a decimal through thousandths and a divisor expressed as a decimal to thousandths with exactly one non-zero digit.</p>	<p><b>Student Book:</b> 77, 78</p>
<p>6.7 The student will use estimation strategies to solve multistep practical problems involving whole numbers, decimals, and fractions (rational numbers).</p>	<p><b>Student Book:</b> 22, 23, 24, 36, 37, 73, 79, 121</p>
<p>6.8 The student will solve multistep consumer-application problems involving fractions and decimals and present data and conclusions in paragraphs, tables, or graphs. Planning a budget will be included.</p>	<p><b>Student Book:</b> 71, 80, 81, 134, 135</p>

## Measurement

Standards of Learning, Grade 6	ACCESS Math
<p>6.9 The student will compare and convert units of measure for length, area, weight/mass, and volume within the U.S. Customary system and the metric system and estimate conversions between units in each system:</p> <p>a) length—part of an inch (<math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, and <math>\frac{1}{8}</math>), inches, feet, yards, miles, millimeters, centimeters, meters, kilometers;</p>	<p><b>Student Book:</b> 34, 67, 73, 113, 115, 116, 123, 127, 128, 129</p>
<p>b) weight/mass—ounces, pounds, tons, grams, kilograms;</p>	<p><b>Student Book:</b> 46, 68, 126</p>

<b>Standards of Learning, Grade 6</b>	<b>ACCESS Math</b>
c) liquid volume—cups, pints, quarts, gallons, milliliters, and liters; and	<b>Student Book:</b> 109, 110, 111, 112, 118, 121
d) area—square units.	<b>Student Book:</b> 214, 215, 216
6.10 The student will estimate and then determine length, weight/mass, area, and liquid volume/capacity, using standard and nonstandard units of measure.	<b>Student Book:</b> 57, 67, 214, 215, 216
6.11 The student will determine if a problem situation involving polygons of four or fewer sides represents the application of perimeter or area and apply the appropriate formula.	<b>Student Book:</b> 212, 213, 214, 215, 216
6.12 The student will:	<b>Student Book:</b> 217, 218, 219, 220, 221
a) solve problems involving the circumference and/or area of a circle when given the diameter or radius; and	
b) derive approximations for pi ( $\pi$ ) from measurements for circumference and diameter, using concrete materials or computer models.	<b>Student Book:</b> 63, 218, 231
6.13 The student will:	<b>Student Book:</b> 182, 183, 184
a) estimate angle measures, using $45^\circ$ , $90^\circ$ , and $180^\circ$ as referents, and use the appropriate tools to measure the given angles; and	
b) measure and draw right, acute, and obtuse angles and triangles.	<b>Student Book:</b> 182, 184, 189

## Geometry

<b>Standards of Learning, Grade 6</b>	<b>ACCESS Math</b>
6.14 The student will identify, classify, and describe the characteristics of plane figures, describing their similarities, differences, and defining properties.	<b>Student Book:</b> 47, 187, 188, 189, 190, 191, 192, 193, 194

Standards of Learning, Grade 6	ACCESS Math
6.15 The student will determine the congruence of segments, angles, and polygons by direct comparison, given their attributes. Examples of noncongruent and congruent figures will be included.	<b>Student Book:</b> 186, 195, 196, 198, 199
6.17 The student will sketch, construct models of, and classify solid figures (rectangular prism, cone, cylinder, and pyramid).	<b>Student Book:</b> 222, 223, 224, 225, 226

## Probability and Statistics

Standards of Learning, Grade 6	ACCESS Math
6.18 The student, given a problem situation, will collect, analyze, display, and interpret data in a variety of graphical methods, including:  a) line, bar, and circle graphs;	<b>Student Book:</b> 142, 144, 145, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177
b) stem-and-leaf plots.	<b>Student Book:</b> 163, 164, 165, 166, 167
6.19 The student will describe the mean, median, and mode as measures of central tendency, describe the range, and determine their meaning for a set of data.	<b>Student Book:</b> 165, 166, 167
6.20 The student will:  a) make a sample space for selected experiments and represent it in the form of a list, chart, picture, or tree diagram; and	<b>Student Book:</b> 244, 245, 247, 248, 250, 251
b) determine and interpret the probability of an event occurring from a given sample space and represent probability as a ratio, decimal, or percent, as appropriate for the given situation.	<b>Student Book:</b> 234, 235, 236, 237, 238, 241, 242

## Patterns, Functions, and Algebra

Standards of Learning, Grade 6	ACCESS Math
6.21 The student will investigate, describe, and extend numerical and geometric patterns, including triangular numbers, patterns formed by powers of 10, and arithmetic sequences.	<b>Student Book:</b> 43, 45, 58, 59, 266, 267, 273, 274, 275
6.22 The student will investigate and describe concepts of positive exponents, perfect squares, square roots, and, for numbers greater than 10, scientific notation. Calculators will be used to develop exponential patterns.	<b>Student Book:</b> 26, 27, 28, 29, 30, 89, 291
6.23 The student will:	<b>Student Book:</b> 48, 49, 50, 51, 52, 54, 56, 57, 280, 282
a) model and solve algebraic equations, using concrete materials;	
b) solve one-step linear equations in one variable, involving whole number coefficients and positive rational solutions; and	<b>Student Book:</b> 49, 50, 51, 52, 53, 54, 55, 56, 57, 276, 277, 278, 279, 281
c) use the following algebraic terms appropriately: <i>variable</i> , <i>coefficient</i> , <i>term</i> , and <i>equation</i> .	<b>Student Book:</b> 40, 43, 44, 45, 46, 47, 49, 304, 311, 312



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