

## Grade 3 – Crosswalk (Summary of Revisions): 2016 Mathematics Standards of Learning and Curriculum Framework

Additions (2016 SOL)	Deletions from Grade 3 (2009 SOL)
<ul style="list-style-type: none"> <li>• 3.1c – Order whole numbers, each 9,999 or less (limited to three whole numbers)</li> <li>• 3.2 EKS – Identify a fraction represented by a model as the sum of unit fractions; use a model of a fraction greater than one, count the fractional parts to name and write it as an improper fraction and as a mixed number; use models to compare fractions to the benchmarks of 0, <math>\frac{1}{2}</math>, and 1</li> <li>• 3.3b – Create single-step and multistep practical problems for addition and subtraction</li> <li>• 3.4b – Create and solve single-step practical problems that involve division through <math>10 \times 10</math></li> <li>• 3.3 EKS and 3.4 EKS – Apply strategies, including place value and the properties of addition and/or multiplication when adding, subtracting, multiplying and dividing whole numbers</li> <li>• 3.12abc – Define a polygon [Moved from 4.12a]; identify and name polygons with 10 or fewer sides [Moved from 4.12b]; combine and subdivide polygons and name the resulting polygon(s)</li> </ul>	<ul style="list-style-type: none"> <li>• 3.2 – Recognize and use the inverse relationships between addition/subtraction [Included in 2.5]</li> <li>• 3.5 – Multiplication facts [Fluency of facts for 0, 1, 2, 5, 10 moved to 3.4c; Fluency of facts to <math>12 \times 12</math> moved to 4.4a]</li> <li>• 3.9c – Measure weight/mass [Included in 4.8b]</li> <li>• 3.14 – Compare/contrast plane and solid figures [Moved to 4.11]</li> <li>• 3.17 – Line plots [Moved to 5.16]</li> </ul>
Parameter Changes/Clarifications (2016 SOL)	Moves within Grade 3 (2009 SOL to 2016 SOL)
<ul style="list-style-type: none"> <li>• 3.1a EKS – Represent numbers in multiple ways, with and without models</li> <li>• 3.2ab – Name, write, and represent fractions (proper and improper) and mixed numbers</li> <li>• 3.4a – Represent multiplication and division, using a variety of approaches and models</li> <li>• 3.4c – Demonstrate fluency with multiplication facts of 0, 1, 2, 5, and 10; [Recall of facts to <math>12 \times 12</math> included in 4.4a]</li> <li>• 3.5 – Solve practical problems that involve addition and subtraction with proper fractions having like denominators of 12 or less</li> <li>• 3.9 EKS – Solve practical problems in relation to equivalent periods of time (e.g. number of days in 4 weeks, number of months in 2 years)</li> <li>• 3.11 EKS – Describe endpoints and vertices as they relate to lines, line segments, rays, and angles</li> <li>• 3.14 EKS – Number of outcomes limited to 12</li> <li>• 3.16 EKS – Solve problems that involve the application of input and output rules limited to addition and subtraction of whole numbers; given the rule, determine the missing values in a list or table</li> <li>• 3.17 – Create equations to represent equivalent mathematical relationships [Moved from 3.20 EKS]</li> <li>• 3.17 EKS – Identify and use the appropriate symbol to distinguish between expressions that are equal and expressions that are not equal</li> </ul>	<ul style="list-style-type: none"> <li>• 3.2 – [Recognize and use the inverse relationships between multiplication and division moved to 3.4 EKS]</li> <li>• 3.3 – [Moved to 3.2]</li> <li>• 3.4 – [Moved to 3.3]</li> <li>• 3.5 – [Recall of facts for 0, 1, 2, 5, and 10 moved to 3.4c]</li> <li>• 3.6 – [Moved to 3.4ad]</li> <li>• 3.7 – [Moved to 3.5]</li> <li>• 3.8 – [Moved to 3.6]</li> <li>• 3.9ab – [Moved to 3.7ab]</li> <li>• 3.9d – [Moved to 3.8ab]</li> <li>• 3.10 – [Moved to 3.8ab]</li> <li>• 3.11 – [Moved to 3.9ab]</li> <li>• 3.12 – [Moved to 3.9c]</li> <li>• 3.13 – [Moved to 3.10]</li> <li>• 3.15 – [Moved to 3.11]</li> <li>• 3.16 – [Moved to 3.13]</li> <li>• 3.17abc – [Moved to 3.15ab]</li> <li>• 3.18 – [Moved to 3.14]</li> <li>• 3.19 – [Moved to 3.16]</li> <li>• 3.20ab – Application of properties [Moved to 3.3 and 3.4 EKS]</li> <li>• 3.20 EKS – Create equations [Moved to 3.17]</li> </ul>

EKS = Essential Knowledge and Skills, referring to the column on the right side of the Curriculum Framework

US = Understanding the Standard, referring to the column on the left side of the Curriculum Framework

## Comparison of Mathematics Standards of Learning – 2009 to 2016

2009	2016
<b>Number and Number Sense</b>	
<p>3.1 The student will</p> <ul style="list-style-type: none"> <li>a) read and write six-digit numerals and identify the place value and value of each digit;</li> <li>b) round whole numbers, 9,999 or less, to the nearest ten, hundred, and thousand; and</li> <li>c) compare two whole numbers between 0 and 9,999, using symbols (<math>&gt;</math>, <math>&lt;</math>, or <math>=</math>) and words (<i>greater than</i>, <i>less than</i>, or <i>equal to</i>). [Symbols and words included in EKS]</li> </ul>	<p>3.1 The student will</p> <ul style="list-style-type: none"> <li>a) read, write, and identify the place and value of each digit in a six-digit whole number, with and without models;</li> <li>b) round whole numbers, 9,999 or less, to the nearest ten, hundred, and thousand; and</li> <li>c) compare and order whole numbers, each 9,999 or less.</li> </ul>
<p>3.2 The student will recognize and use the inverse relationships between addition/subtraction and multiplication/division to complete basic fact sentences. The student will use these relationships to solve problems. [Addition/subtraction included in 2.5; multiplication/division moved to 3.4 EKS]</p>	
<p>3.3 The student will</p> <ul style="list-style-type: none"> <li>a) name and write fractions (including mixed numbers) represented by a model;</li> <li>b) model fractions (including mixed numbers) and write the fractions' names; and</li> <li>c) compare fractions having like and unlike denominators, using words and symbols (<math>&gt;</math>, <math>&lt;</math>, or <math>=</math>).</li> </ul>	<p>3.2 The student will</p> <ul style="list-style-type: none"> <li>a) name and write fractions and mixed numbers represented by a model;</li> <li>b) represent fractions and mixed numbers, with models and symbols; and</li> <li>c) compare fractions having like and unlike denominators, using words and symbols (<math>&gt;</math>, <math>&lt;</math>, <math>=</math>, or <math>\neq</math>), with models.</li> </ul>
<b>Computation and Estimation</b>	
<p>3.4 The student will estimate solutions to and solve single-step and multistep problems involving the sum or difference of two whole numbers, each 9,999 or less, with or without regrouping.</p>	<p>3.3 The student will</p> <ul style="list-style-type: none"> <li>a) estimate and determine the sum or difference of two whole numbers; and</li> <li>b) create and solve single-step and multistep practical problems involving sums or differences of two whole numbers, each 9,999 or less.</li> </ul>
<p>3.5 The student will recall multiplication facts through the twelves table, and the corresponding division facts. [Demonstrate fluency with facts for 0, 1, 2, 5, 10 moved to 3.4c and recall of facts <math>12 \times 12</math> moved to 4.4a]</p>	<p>3.4 The student will</p> <ul style="list-style-type: none"> <li>a) represent multiplication and division through <math>10 \times 10</math>, using a variety of approaches and models; [Moved from 3.6]</li> <li>b) create and solve single-step practical problems that involve multiplication and division through <math>10 \times 10</math>; [Create and solve multiplication moved from 3.6; create and solve with division is a new expectation.]</li> <li>c) demonstrate fluency with multiplication facts of 0, 1, 2, 5, and 10; and</li> <li>d) solve single-step practical problems involving multiplication of whole numbers, where one factor is 99 or less and the second factor is 5 or less. [Moved from 3.6]</li> </ul>

2009	2016
<b>Computation and Estimation</b>	
<p>3.6 The student will represent multiplication and division, using area, set, and number line models, and create and solve problems that involve multiplication of two whole numbers, one factor 99 or less and the second factor 5 or less. [Moved to 3.4a and 3.4d]</p>	
<p>3.7 The student will add and subtract proper fractions having like denominators of 12 or less.</p>	<p>3.5 The student will solve practical problems that involve addition and subtraction with proper fractions having like denominators of 12 or less.</p>
<b>Measurement and Geometry</b>	
<p>3.8 The student will determine, by counting, the value of a collection of bills and coins whose total value is \$5.00 or less, compare the value of the bills and coins, and make change.</p>	<p>3.6 The student will</p> <ul style="list-style-type: none"> <li>a) determine the value of a collection of bills and coins whose total value is \$5.00 or less;</li> <li>b) compare the value of two sets of coins or two sets of coins and bills; and</li> <li>c) make change from \$5.00 or less.</li> </ul>
<p>3.9 The student will estimate and use U.S. Customary and metric units to measure</p> <ul style="list-style-type: none"> <li>a) length to the nearest <math>\frac{1}{2}</math> inch, inch, foot, yard, centimeter, and meter;</li> <li>b) liquid volume in cups, pints, quarts, gallons, and liters;</li> <li>c) weight/mass in ounces, pounds, grams, and kilograms; [Included in 4.8b] and</li> <li>d) area and perimeter. [Moved to 3.8ab]</li> </ul>	<p>3.7 The student will estimate and use U.S. Customary and metric units to measure</p> <ul style="list-style-type: none"> <li>a) length to the nearest <math>\frac{1}{2}</math> inch, inch, foot, yard, centimeter, and meter; and</li> <li>b) liquid volume in cups, pints, quarts, gallons, and liters.</li> </ul>
<p>3.10 The student will</p> <ul style="list-style-type: none"> <li>a) measure the distance around a polygon in order to determine perimeter; and [Moved to 3.8a]</li> <li>b) count the number of square units needed to cover a given surface in order to determine area. [Moved to 3.8b]</li> </ul>	<p>3.8 The student will estimate and [Estimate moved from 3.9d EKS]</p> <ul style="list-style-type: none"> <li>a) measure the distance around a polygon in order to determine its perimeter using U.S. Customary and metric units [Moved from 3.9d EKS]; and</li> <li>b) count the number of square units needed to cover a given surface in order to determine its area.</li> </ul>
<p>3.11 The student will</p> <ul style="list-style-type: none"> <li>a) tell time to the nearest minute, using analog and digital clocks; and</li> <li>b) determine elapsed time in one-hour increments over a 12-hour period.</li> </ul>	<p>3.9 The student will</p> <ul style="list-style-type: none"> <li>a) tell time to the nearest minute, using analog and digital clocks;</li> <li>b) solve practical problems related to elapsed time in one-hour increments within a 12-hour period; and</li> <li>c) identify equivalent periods of time and solve practical problems related to equivalent periods of time. [Moved from 3.12].</li> </ul>

2009	2016
<b>Measurement and Geometry</b>	
3.12 The student will identify equivalent periods of time, including relationships among days, months, and years, as well as minutes and hours. [Moved to 3.9c]	
3.13 The student will read temperature to the nearest degree from a Celsius thermometer and a Fahrenheit thermometer. Real thermometers and physical models of thermometers will be used.	3.10 The student will read temperature to the nearest degree.
3.14 The student will identify, describe, compare, and contrast characteristics of plane and solid geometric figures (circle, square, rectangle, triangle, cube, rectangular prism, square pyramid, sphere, cone, and cylinder) by identifying relevant characteristics, including the number of angles, vertices, and edges, and the number and shape of faces, using concrete models. [Moved to 4.11]	
3.15 The student will identify and draw representations of points, line segments, rays, angles, and lines.	3.11 The student will identify and draw representations of points, lines, line segments, rays, and angles.
	3.12 The student will a) define polygon; [Moved from 4.12a] b) identify and name polygons with 10 or fewer sides; and [Moved from 4.12b] c) combine and subdivide polygons with three or four sides and name the resulting polygon(s).
3.16 The student will identify and describe congruent and noncongruent plane figures.	3.13 The student will identify and describe congruent and noncongruent figures.
<b>Probability and Statistics</b>	
3.17 The student will a) collect and organize data, using observations, measurements, surveys, or experiments; [Process included in EKS] b) construct a line plot, a picture graph, or a bar graph to represent the data; and [Line plot moved to 5.16; construct graphs moved to 3.15a] c) read and interpret the data represented in line plots, bar graphs, and picture graphs and write a sentence analyzing the data. [Line plots moved to 5.16; interpret bar graphs and picture graphs moved to 3.15b]	
3.18 The student will investigate and describe the concept of probability as chance and list possible results of a given situation.	3.14 The student will investigate and describe the concept of probability as a measurement of chance and list possible outcomes for a single event.

2009	2016
<b>Probability and Statistics</b>	
	3.15 The student will <ul style="list-style-type: none"> <li>a) collect, organize, and represent data in pictographs or bar graphs; and</li> <li>b) read and interpret the data represented in pictographs and bar graphs.</li> </ul> [Moved from 3.17abc]
<b>Patterns, Functions, and Algebra</b>	
3.19 The student will recognize and describe a variety of patterns formed using numbers, tables, and pictures, and extend the patterns, using the same or different forms.	3.16 The student will identify, describe, create, and extend patterns found in objects, pictures, numbers, and tables.
3.20 The student will <ul style="list-style-type: none"> <li>a) investigate the identity and the commutative properties for addition and multiplication; and</li> <li>b) identify examples of the identity and commutative properties for addition and multiplication.</li> </ul> [Use of properties moved to 3.4 EKS and 3.5 EKS]	3.17 The student will create equations to represent equivalent mathematical relationships. [Moved from 3.20 EKS]