**Grade 5 – Crosswalk (Summary of Revisions): 2016 *Mathematics Standards of Learning and Curriculum Framework***

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| **Additions (2016 SOL)** | **Deletions from Grade 5 (2009 SOL)** |
| * 5.5 EKS – Divide with decimal dividend and decimal divisor; model multiplication and division of decimals and whole numbers (parameters listed below)
* 5.6b – Solve single-step practical problems involving multiplication of a whole number, limited to 12 or less, and a proper fraction, with models
* 5.13a EKS – Compare and contrast properties of triangles; use geometric markings
* 5.13b – Investigate the sum of the interior angles in a triangle and determine an unknown angle measure
* 5.13 EKS – Use models to prove the sum of the interior angles of a triangle is 180° and use the relationship to determine unknown angle measure in a triangle
* 5.14 – Recognize and apply transformations [Moved from 4.11]
* 5.15 – Determine probability using Fundamental Counting Principle [Moved from 7.10]
* 5.16abc – Represent and interpret data in a line plot [Moved from 3.17]; compare data represented in a line plot with the same data represented in a stem-and-leaf plot
 | * 5.5a – Addition and subtraction with decimals [Included in 4.6a]
* 5.8d – Estimate and measure using U.S. Customary [Included in 4.8d]
* 5.13a – Develop definitions for quadrilaterals [Included in 4.12]
* 5.15 – Line graphs [Included in 4.14]
* 5.16 EKS – Determine impact on measures of center when a single value of a data set is added, removed, or changed [Moved to 6.15]
* 5.18c – Model one step linear equations [Included in 6.13]
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| **Parameter Changes/Clarifications (2016 SOL)** | **Moves within Grade 5 (2009 SOL to 2016 SOL)** |
| * 5.2 EKS – Represent fractions with denominators that are thirds, eighths, and factors of 100 in their equivalent decimal form with models; represent decimals in their equivalent fraction form (thirds, eighths, and factors of 100) with models; use the symbols >, <, =, and ≠ to compare decimals, fractions, and/or mixed numbers
* 5.3 EKS – Use concrete or pictorial representations to demonstrate and explain why a number is prime or composite, why a number is even or odd, and why the sum or difference of two numbers is even or odd
* 5.4 EKS – Apply strategies, including place value and application of the properties to +, -, ×, and ÷ [Application of properties moved from 5.19]; factors increased to two digit by three digit numbers [Moved from 4.4 EKS]; use context to interpret the quotient and the remainder
* 5.5 – Create and solve practical problems with division of decimals limited to single-step
* 5.5 EKS – Multiply decimals - factors do not exceed two digits by two digits; and products do not exceed the thousandths place; divide decimals - quotients do not exceed 4 digits, with or without a decimal point, and may include whole numbers, tenths, hundredths, or thousandths; divisors limited to single digit whole number or a decimal expressed as tenths; model × and ÷ of decimals and whole numbers
* 5.8 EKS – Develop a procedure for determining the area of a right triangle; estimate and determine the volume of a rectangular prism with diagrams
* 5.9a – Given the equivalent measure of one unit, identify equivalent metric measurements
* 5.14 EKS – Compare and contrast the characteristics of a given polygon that has been subdivided, with the characteristics of the resulting parts
* 5.17c EKS – Describe the range of a set of data as a measure of spread
* 5.19c – Use an expression with a variable to represent a given verbal expression involving one operation
 | * 5.8c – [Moved to 5.9a]
* 5.8d – Moved to 5.9b]
* 5.8e – [Moved to 5.9 US]
* 5.9 – [Moved to 5.10]
* 5.10 – [Moved to 5.11]
* 5.11 – [Moved to 5.12]
* 5.12a – [Moved to 5.12]
* 5.12b – [Moved to 5.13b]
* 5.13 – [Moved to 5.14]
* 5.14 – [Moved to 5.15]
* 5.15 – [Moved to 5.16]
* 5.16 – [Moved to 5.17]
* 5.17 – [Moved to 5.18]
* 5.18 – [Moved to 5.19]
* 5.19 – [Application of the properties moved to 5.4]
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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 Standards of Learning – 2009 to 2016**

| **2009 SOL** | **2016 SOL** |
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| **Number and Number Sense**\*On the state assessment, items measuring this objective are assessed without the use of a calculator. |
| 5.1 The student, given a decimal through thousandths, will round to the nearest whole number, tenth, or hundredth. | 5.1 The student, given a decimal through thousandths, will round to the nearest whole number, tenth, or hundredth. |
| 5.2 The student willa) recognize and name fractions in their equivalent decimal form and vice versa;\* andb) compare and order fractions and decimals in a given set from least to greatest and greatest to least.\* | 5.2 The student willa) represent and identify equivalencies among fractions and decimals, with and without models;\* andb) compare and order fractions, mixed numbers, and/or decimals, in a given set, from least to greatest and greatest to least.\* |
| 5.3 The student willa) identify and describe the characteristics of prime and composite numbers; andb) identify and describe the characteristics of even and odd numbers. | 5.3 The student willa) identify and describe the characteristics of prime and composite numbers; andb) identify and describe the characteristics of even and odd numbers. |
| **Computation and Estimation**\*On the state assessment, items measuring this objective are assessed without the use of a calculator. |
| 5.4 The student will create and solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division with and without remainders of whole numbers.\* | 5.4 The student will create and solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division of whole numbers. |
| 5.5 The student willa) find the sum, difference, product, and quotient of two numbers expressed as decimals through thousandths (divisors with only one nonzero digit);\* [Addition and subtraction of decimals included in 4.6] andb) create and solve single-step and multistep practical problems involving decimals.\* | 5.5 The student willa) estimate and determine the product and quotient of two numbers involving decimals;\* andb) create and solve single-step and multistep practical problems involving addition, subtraction, and multiplication of decimals, and create and solve single-step practical problems involving division of decimals. |
| 5.6 The student will solve single-step and multistep practical problems involving addition and subtraction with fractions and mixed numbers and express answers in simplest form. \* [Express in simplest form included in EKS] | 5.6 The student will 1. solve single-step and multistep practical problems involving addition and subtraction with fractions and mixed numbers; and
2. solve single-step practical problems involving multiplication of a whole number, limited to 12 or less, and a proper fraction, with models.\*
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| 5.7 The student will evaluate whole number numerical expressions, using the order of operations limited to parentheses, addition, subtraction, multiplication, and division.\* | 5.7 The student will simplify whole number numerical expressions using the order of operations.\* |
|  **Measurement and Geometry** |
| 5.8 The student willa) find perimeter, area, and volume in standard units of measure;b) differentiate among perimeter, area, and volume and identify whether the application of the concept of perimeter, area, or volume is appropriate for a given situation;c) identify equivalent measurements within the metric system; [Moved to 5.9a]d) estimate and then measure to solve problems, using U.S. Customary and metric units; and [Metric moved to 5.9b; U.S. Customary included in 4.8d]e) choose an appropriate unit of measure for a given situation involving measurement using U.S. Customary and metric units. [Moved to 5.9 EKS] | 5.8 The student willa) solve practical problems that involve perimeter, area and volume in standard units of measure; andb) differentiate among perimeter, area, and volume and identify whether the application of the concept of perimeter, area, or volume is appropriate for a given situation. |
|  | 5.9 The student willa) given the equivalent measure of one unit, identify equivalent measurements within the metric system; and [Moved from 5.8c]b) solve practical problems involving length, mass, and liquid volume using metric units. [Moved from 5.8d] |
| 5.9 The student will identify and describe the diameter, radius, chord, and circumference of a circle. | 5.10 The student will identify and describe the diameter, radius, chord, and circumference of a circle. |
| 5.10 The student will determine an amount of elapsed time in hours and minutes within a 24-hour period. | 5.11 The student will solve practical problems related to elapsed time in hours and minutes within a 24-hour period. |
| 5.11 The student will measure right, acute, obtuse, and straight angles. | 5.12 The student will classify and measure right, acute, obtuse, and straight angles. [Classify angles moved from 5.12a] |
| 5.12 The student will classify a) angles as right, acute, obtuse, or straight; and [Moved to 5.12]b) triangles as right, acute, obtuse, equilateral, scalene, or isosceles. [Moved to 5.13a] | 5.13 The student will a) classify triangles as right, acute, or obtuse and equilateral, scalene, or isosceles; and [Moved from 5.12b]1. investigate the sum of the interior angles in a triangle and determine an unknown angle measure.
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| 5.13 The student, using plane figures (square, rectangle, triangle, parallelogram, rhombus, and trapezoid), willa) develop definitions of these plane figures; and [Included in 4.12]b) investigate and describe the results of combining and subdividing plane figures. | 5.14 The student will a) recognize and apply transformations, such as translation, reflection, and rotation; [Moved from 4.11b] and1. investigate and describe the results of combining and subdividing polygons.
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| **2009 SOL** | **2016 SOL** |
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| **Probability and Statistics** |
| 5.14 The student will make predictions and determine the probability of an outcome by constructing a sample space. | 5.15 The student will determine the probability of an outcome by constructing a sample space or using the Fundamental (Basic) Counting Principle. |
| 5.15 The student, given a problem situation, will collect, organize, and interpret data in a variety of forms, using stem-and-leaf plots and line graphs. | 5.16 The student, given a practical problem, will 1. represent data in line plots and stem-and-leaf plots;
2. interpret data represented in line plots and stem-and-leaf plots; and
3. compare data represented in a line plot with the same data represented in a stem-and-leaf plot.
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| 5.16 The student willa) describe mean, median, and mode as measures of center;b) describe mean as fair share;c) find the mean, median, mode, and range of a set of data; andd) describe the range of a set of data as a measure of variation. | 5.17 The student, given a practical context, will 1. describe mean, median, and mode as measures of center;
2. describe mean as fair share;
3. describe the range of a set of data as a measure of spread; and [reordered]
4. determine the mean, median, mode, and range of a set of data.
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| **Patterns, Functions, and Algebra** |
| 5.17 The student will describe the relationship found in a number pattern and express the relationship. | 5.18 The student will identify, describe, create, express, and extend number patterns found in objects, pictures, numbers, and tables. |
| 5.18 The student willa) investigate and describe the concept of variable;b) write an open sentence to represent a given mathematical relationship, using a variable;c) model one-step linear equations in one variable, using addition and subtraction; and [5.18c Included in 6.13]d) create a problem situation based on a given open sentence, using a single variable. | 5.19 The student willa) investigate and describe the concept of variable;b) write an equation to represent a given mathematical relationship, using a variable; c) use an expression with a variable to represent a given verbal expression involving one operation; and d) create a problem situation based on a given equation, using a single variable and one operation. |
| 5.19 The student will investigate and recognize the distributive property of multiplication over addition. [Application of properties moved to 5.4 EKS] |  |