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

|  |  |
| --- | --- |
| **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] |
| **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] |

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** |
| --- | --- |
| **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 will  a) recognize and name fractions in their equivalent decimal form and vice versa;\* and  b) compare and order fractions and decimals in a given set from least to greatest and greatest to least.\* | 5.2 The student will  a) represent and identify equivalencies among fractions and decimals, with and without models;\* and  b) 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 will  a) identify and describe the characteristics of prime and composite numbers; and  b) identify and describe the characteristics of even and odd numbers. | 5.3 The student will  a) identify and describe the characteristics of prime and composite numbers; and  b) 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 will  a) 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] and  b) create and solve single-step and multistep practical problems involving decimals.\* | 5.5 The student will  a) estimate and determine the product and quotient of two numbers involving decimals;\* and  b) 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.\* |
| 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 will  a) 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 will  a) solve practical problems that involve perimeter, area and volume in standard units of measure; and  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. |
|  | 5.9 The student will  a) 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. |
| 5.13 The student, using plane figures (square, rectangle, triangle, parallelogram, rhombus, and trapezoid), will  a) 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] and   1. investigate and describe the results of combining and subdividing polygons. |

| **2009 SOL** | **2016 SOL** |
| --- | --- |
| **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. |
| 5.16 The student will  a) 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; and  d) 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. |
| **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 will  a) 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 will  a) 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] |  |