***Kannapolis City Schools 2010-2011 Mathematics***

 ***Investigations Quarterly Guide – First Grade***

**Number and Operations**

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| **Essential Standard**  | **Clarifying Objectives**  | **U= Unit****CR= Classroom Routines** |
|  | **1st** | **2nd** | **3rd** | **4th** |
| **1.N.1**  | **Represent the whole numbers from 0 through 100 by counting, reading, writing and the use of physical models.**  | 1.N.1.1  | Understand the sequential order of the counting numbers and their relative magnitudes.  | U-1CR-1,2 | U-3,4CR- 3,4 | CR-5,6,7 | U-8CR-8,9 |
| 1.N.1.2  | Use a range of numbers (1-10, 11-20, 21-30, etc.) to estimate the quantity of a given set.  | U-1CR-2 | U-3CR-3,4 | CR-5,6,7 | U-8CR-8,9 |
| 1.N.1.3  | Understand that counting by 2s, 5s and 10s is counting groups of items by that amount.  | U-1 | U-3CR-3,4 | CR-5,6,7 | U-8CR-8,9 |
| 1.N.1.4  | Recognize patterns in written numerals and use those patterns to determine the order of numbers including the number before and after, 1 more and 1 less and 2 more and 2 less.  | U-1 | U-3CR-3,4 | U-7CR-5,6,7 | U-8CR-8,9 |
| 1.N.1.5  | Understand that the order of the digits determines the given number and use this understanding to compare sets and numbers.  | U-1 | U-3CR-3,4 | CR-5,6,7 | U-8CR-8,9 |
| 1.N.1.6  | Illustrate whole numbers to 30 in groups of tens and ones using objects, pictures and numbers.  | U-1 | U-3CR-3,4 | CR-5,6,7 | U-8CR-8,9 |
| **1.N.2**  | **Use strategies to compose and decompose numbers 0-100.**  | 1.N.2.1  | Use part-part-whole relationships (including 2 or more parts), benchmark numbers 5 and 10, doubles and near doubles to compose and decompose numbers.  | U-1 | U-3CR-3 | U-6 |  |
| 1.N.2.2  | Understand the concept of ten–and-some-more with numbers 11-20.  | U-1 |  | U-6 |  |
| 1.N.2.3  | Understand 10 more and 10 less from any given number to 100.  | U-1 |  | U-6 |  |
| **1.N.3**  | **Use efficient strategies to solve a variety of story problems and generate a justification for the reasonableness of the answer.**  | 1.N.3.1  | Use fluent recall of addition facts (sums to 10) and the related subtraction facts to solve problems.  |  | U-3CR-3 | U-6CR-6 | U-8 |
| 1.N.3.2  | Use strategies to solve single and multi-step addition and subtraction story problems to 30.  | U-1CR-1,2 | U-3 | U-6CR 6,7 | U-8CR-8,9 |
| 1.N.3.3  | Use strategies to solve single-step addition and subtraction story problems to 100.  |  | U-3 | U-6 | U-8 |
| **1.N.4**  | **Understand sharing fairly (equipartitioning) with collections of discrete items and single continuous wholes.**  | 1.N.4.1  | Understand that a region or set must be divided into equal parts of the whole and when reassembled recreates the whole.  |  |  | CR-6 |  |
| 1.N.4.2  | Understand the concept of “left-over” (remainder).  |  |  | CR-6 |  |
| 1.N.4.3  | Understand that even numbers are sets that can be shared fairly between two people and odd sets cannot.  |  |  | CR-6 |  |

**Algebra**

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| **Essential Standard**  | **Clarifying Objectives**  |  |
|  | **1st** | **2nd** | **3rd** | **4th** |
| **1.A.1**  | **Use relationships between addition and subtraction to solve problems.**  | 1.A.1.1  | Use models to demonstrate addition properties (commutative, associative and identity).  | U-1 | U-3CR-3 |  |  |
| 1.A.1.2  | Use models to demonstrate the inverse relationship between addition and subtraction.  |  | U-3 |  | CR-9 |
| **1.A.2**  | **Apply the concept of equality.**  | 1.A.2.1  | Use the equal sign to show the relationship between one side of the equation and the other.  |  | U-3 | U-6 | U-8 |
| 1.A.2.2  | Interpret simple number sentences as models and models as number sentences in order to solve.  |  | U-3 | U-6,7CR-6,7 | U-8CR- 8,9 |
| **1.A.3**  | **Analyze repeating patterns.**  | 1.A.3.1  | Analyze patterns to identify the unit, correct errors and extend the patterns.  |  |  | U-7 |  |
| 1.A.3.2  | Translate patterns into symbolic representations using actions, words and models.  |  |  | U-7 |  |

**Geometry**

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| **Essential Standard**  | **Clarifying Objectives**  |  |
|  | **1st** | **2nd** | **3rd** | **4th** |
| **1.G.1**  | **Classify two-dimensional figures (polygons) as parallelogram, rhombus, trapezoid and hexagon and three-dimensional figures (polyhedra) as prism and pyramid according to geometric attributes.**  | 1.G.1.1  | Describe the attributes of the figures, such as: number of faces or edges, equal sizes of sides and numbers of angles.  | U-2CR-2 |  |  | U-9CR-9 |
| 1.G.1.2  | Use the attributes of figures to recognize different variations of figures.  | U-2 |  |  | U-9CR-9 |
| **1.G.2**  | **Compare geometric figures in terms of their perspectives and orientations.**  | 1.G.2.1  | Summarize relationships of objects using proximity, position, perspective, orientation and navigation.  | U-2 |  |  | U-9 |
| 1.G.2.2  | Compare different perspectives and orientations by composing and decomposing geometric figures.  | U-1,2 | U-3 |  | U-9 |

**Measurement**

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| **Essential Standard**  | **Clarifying Objectives**  |  |
|  | **1st** | **2nd** | **3rd** | **4th** |
| **1.M.1**  | **Use nonstandard units to estimate and measure length or weight\* of objects.** **\*More properly mass, but most commonly understood as weight at this grade band.**  | 1.M.1.1 | Compare objects in terms of appropriate non-standard units of measurement.  |  |  | U-5 |  |
| 1.M.1.2 | Use comparative vocabulary to describe the relationship among three to five objects with respect to length (longer, shorter), weight (heavier, lighter) or duration.  |  |  | U-5 | CR-8 |
| **1.M.2**  | **Use the names of the days of the weeks and the months of the year to describe special activities and events.**  | 1.M.2.1  | Remember in order the names of the days of the week and months of the year.  | CR-1,2 | CR-3,4 | CR-5,6,7 | CR-8,9 |
| 1.M.2.2  | Recognize the difference in the amount of time between a day, week and month.  | CR- 1,2 | CR-3,4 | CR- 5,6,7 | CR- 8,9 |

**Statistics and Probability**

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| **Essential Standard**  | **Clarifying Objectives**  |  |
|  | **1st** | **2nd** | **3rd** | **4th** |
| **1.S.1**  | **Infer the rule for classifying objects on the basis of two attributes.**  | 1.S.1.1  | Explain how a collection of objects with various attributes can be classified or sorted in different ways.  |  | U-4 |  |  |
| **1.S.2**  | **Use appropriate methods to collect, display, analyze and interpret statistical data in response to specific questions.**  | 1.S.2.1  | Represent data collected using picture graphs, line plots, lists and tallies to capture and represent categorical and numerical data.  | CR-1,2 | U-4CR-3,4 | CR-5,6,7 | CR-8,9 |