Dear Parents,
We want to make sure that you have an understanding of the mathematics your child will be learning this year. Below you will find the standards we will be learning in Unit Five. Each standard is in bold print and underlined and below it is an explanation with student examples. Your child is not learning math the way we did when we were in school, so hopefully this will assist you when you help your child at home. Please let your teacher know if you have any questions. ☺

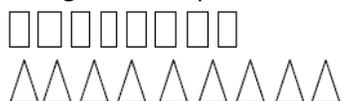**MGSEK.CC.1 Count to 100 by ones and by tens.**
This standard calls for students to rote count by starting at one and count to 100. When students count by tens, they are only expected to master counting on the decade (0, 10, 20, 30, 40 …).

MGSEK.CC.6 Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.
This standard expects mastery of up to ten objects. Students can use matching strategies (Student 1), counting strategies or equal shares (Student 3) to determine whether one group is greater than, less than, or equal to the number of objects in another group (Student 2).

Student 1	**Student 2**	**Student 3**
I lined up one square and one triangle. Since there is one extra triangle, there are more triangles than squares. ⬜⬜⬜⬜⬜⬜⬜ △△△ △△△△	I counted the squares and I got 8. Then I counted the triangles and got 9. Since 9 is bigger than 8, there are more triangles than squares.	I put them in a pile. I then took away objects. Every time I took a square, I also took a triangle. When I had taken almost all of the shapes away, there was still a triangle left. That means there are more triangles than squares.

MGSEK.CC.7 Compare two numbers between 1 and 10 presented as written numerals.
This standard calls for students to apply their understanding of numerals 1-10 to compare one from another. Thus, looking at the numerals 8 and 10, a student must be able to recognize that the numeral 10 represents a larger amount than the numeral 8. Students should begin this standard by having ample experiences with sets of objects (CCGPS.K.CC.3 and CCGPS.K.CC.6) before completing this standard with just numerals. Based on early childhood research, students should not be expected to be comfortable with this skill until the end of kindergarten.

MGSEK.OA.1 Represent addition and subtraction with objects, fingers, mental images, drawings , sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.
This standard asks students to demonstrate the understanding of how objects can be joined (addition) and separated (subtraction) by representing addition and subtraction situations in various ways. This objective is primarily focused on understanding the concept of addition and subtraction, rather than merely reading and solving addition and subtraction number sentences (equations). In quarter one, students investigate addition and subtraction concepts within 5.

MGSEK.OA.2 Solve addition and subtraction word problems, and add and subtract within 5, e.g., by using objects or drawings to represent the problem.
This standard asks students to solve problems presented in a story format (context) with a specific emphasis on using objects or drawings to determine the solution. This objective builds upon their understanding of addition and subtraction from K.OA.1, to solve problems. Again, numbers should not exceed 5 in quarter one.

Teachers should be cognizant of the three types of problems. There are three types of addition and subtraction problems: Result Unknown, Change Unknown, and Start Unknown. These types of problems become increasingly difficult for students. Research has found that Result Unknown problems are easier than Change and Start Unknown problems. Kindergarten students should have experiences with all three types of problems. The level of difficulty can be decreased by using smaller numbers or increased by using larger numbers.

MGSEK.OA.3 Decompose numbers less than or equal to 5 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1).
This standard asks students to understand that a set of (5) object can be broken into two sets (3 and 2) and still be the same total amount (5). In addition, this objective asks students to realize that a set of objects (5) can be broken in multiple ways (3 and 2; 4 and 1). Thus, when breaking apart a set (decomposing), students develop the understanding that a smaller set of objects exists within that larger set (inclusion). This should be developed in context before moving into how to represent decomposition with symbols (+, -, =).
Example:
"Bobby Bear is missing 5 buttons on his jacket. How many ways can you use blue and red buttons to finish his jacket? Draw a picture of all your ideas. Students could draw pictures of:
•4 blue and 1 red button   •3 blue and 2 red buttons   •2 blue and 3 red buttons   •1 blue and 4 red buttons

After the students have had numerous experiences with decomposing sets of objects and recording with pictures and numbers, the teacher eventually makes connections between the drawings and symbols: 5=4+1, 5=3+2, 5=2+3, and 5=1+4.

The number sentence only comes after pictures or work with manipulatives, and students should never give the number sentence without a mathematical representation.

MGSEK.OA.4 For any number from 1 to 5, find the number that makes 5 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.
Once students have had experiences breaking apart ten into various combinations, this asks students to find a missing part of 5.
Example:
"A full case of juice boxes has 5 boxes. There are only 3 boxes in this case. How many juice boxes are missing?

MGSEK.OA.5 Fluently add and subtract within 5.
Students are fluent when they display accuracy (correct answer), efficiency (a reasonable amount of steps in about 3 seconds without resorting to counting), and flexibility (using strategies such as the distributive property). Students develop fluency by understanding and internalizing the relationships that exist between and among numbers. Oftentimes, when children think of each "fact" as an individual item that does not relate to any other "fact", they are attempting to memorize separate bits of information that can be easily forgotten. Instead, in order to fluently add and subtract, children must first be able to see sub-parts within a number. Once they have reached this milestone, children need repeated experiences with many different types of concrete materials (such as cubes, chips, and buttons) over an extended amount of time in order to recognize that there are only particular sub-parts for each number. Therefore, children will realize that if 3 and 2 is a combination of 5, then 3 and 2 cannot be a combination of 6. For example, after making various arrangements with toothpicks, students learn that only a certain number of sub-parts exist within the number 4:
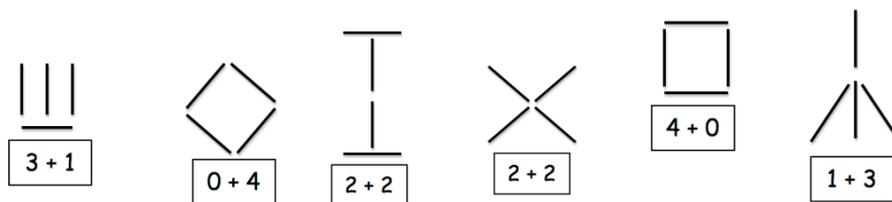
Then, after numerous opportunities to explore, represent and discuss "4", a student becomes able to fluently answer problems such as, "One bird was on the tree. Three more birds came. How many are on the tree now?" and "There was one bird on the tree. Some more came. There are now 4 birds on the tree. How many birds came?" Traditional flash cards or timed tests have not been proven as effective instructional strategies for developing fluency. Rather, numerous experiences with breaking apart actual sets of objects help children internalize parts of number.

(Adapted from Henry County Schools)