Parents, here are some necessary, beginning-midyear, Math skills that we will be working on here at ACA with your Fourth Grader.

- Read and write whole numbers up to 1,000,000. Use words, models, standard form, and expanded form to represent and show equivalent forms of whole numbers up to 1,000,000.

- Model mixed numbers and improper fractions using visual fraction models such as number lines and area models. Use a visual fraction model to show the equivalency between whole numbers and whole numbers as fractions.

- Use fraction models to represent two equivalent fractions with attention to how the number and size of the parts differ even though the fractions themselves are the same size. Use this principle to generate equivalent fractions. [In grade 4, limit denominators of fractions to 2, 3, 4, 5, 6, 8, 10, 25, 100.] (End of year goal)

- Compare two fractions with different numerators and different denominators (e.g., by creating common denominators or numerators, or by comparing to a benchmark, such as 0, 1/2, and 1). Explain why comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols > , = , or < , and justify the conclusions (e.g., by using a visual fraction model). (End of year goal)

- Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Describe the strategy and explain the reasoning. (End of year goal)

- Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Describe the strategy and explain the reasoning. (End of year goal)

- Show how the order in which two numbers are multiplied (commutative property) and how numbers are grouped in multiplication (associative property) will not change the product. Use these properties to show that numbers can be multiplied in any order. Investigate and apply the distributive property. (End of year goal)

- Identify, describe, and draw parallelograms, rhombuses, and trapezoids using appropriate tools (e.g., ruler, straightedge, and technology). 4.G.2 Identify, describe, and draw rays, angles (right, acute, obtuse), and perpendicular and parallel lines using appropriate tools

- Measure length to the nearest quarter-inch, eighth-inch, and millimeter. (End of year goal)

- Formulate questions that can be addressed with data. Collect, organize, and graph data from observations, surveys, and experiments using line plots with whole number intervals, single- and scaled bar graphs, and frequency tables. Solve real-world problems by analyzing and interpreting the data using grade-level computation and comparison strategies. (End of year goal)