Curriculum Parent Overview (Grade 5)

MATHEMATICS

UNIT #3: RECTANGLES, CLOCKS, AND TRACKS
(Rational Numbers 1: Addition and Subtraction)

CONTENT FOCUS: Students use different-sized rectangles to represent fractions and find fraction equivalents. They use fraction equivalents and the relationships of fractions to landmarks such as ½ and 1 to compare and order fractions.

Students use rotation on a clock, rectangles, and the number line to represent and visualize addition and subtraction of fractions. They add and subtract fractions while playing games and solving problems. Students solve problems that involve adding and subtracting fractions and mixed numbers by using what they know about fraction equivalents, benchmark fractions, and finding and using common denominators.

UNIT FOCUS:
- Finding equivalents and comparing fractions: Students build on work from previous grades with comparing and ordering fractions. They begin by representing fractions on rectangles and finding equivalent fractions such as 8/10 = ?/5. They use fraction equivalents and the relationship of fractions to landmarks, such as ½, 1, 2, and others to decide which of two is greater. Students discuss how they know one fraction is equal to, greater than, or less than ½ or ¼. They will work with fractions greater than 1 and their equivalents, such as recognizing that 9/6 = 1 1/2 . Their work with representing fractions in a variety of ways, finding equivalent fractions to serve as a tool for comparing fractions, and putting fractions in order lays the conceptual foundations for students as they move toward making sense of adding and subtracting fractions with like and unlike denominators.

- Adding and subtracting fractions: Students use representations to add and subtract fractions. They use 4x6 and 5x12 rectangles, rotation on a clock, and the number line as ways of visualizing addition and subtraction of fractions before moving on to a more procedural approach. For example, to find ½ + ⅓, students may use 4x6 rectangles: ½ of the rectangle is 12 square units; ⅓ of the rectangle is 8 square units; the total is 12+8, or 20 out of the 24 square units, or 20/24. Students begin to develop strategies to add and subtract fractions with the same and unlike denominators, in which they may or may not have to change the denominators. Students will explore this concept and refine their skills with adding and subtracting mixed numbers and fractions.

MATHEMATICAL PRACTICES:
MP8: Look for and express regularity in repeated reasoning.
MP3: Construct viable arguments and critique the reasoning of others.

CONNECTIONS TO PREVIOUS CONTENT:
This unit builds on the work students did in Grades 3 and 4 as they worked with fractions. In Grade 4, students used a variety of representations, including ractanges (4x6, 5x12, 10x10) and number lines to represent, compare, and order fractions and to find equivalent fractions. They also added and subtracted fractions with like denominators. It is expected that most 5th Graders understand the meaning of fractions, can find equivalent fractions, and can add and subtract fractions and mixed numbers with like denominators (within the given set of fractions with denominators of 2, 3, 4, 5, 6, 8, 10, 12, and 100).

CONNECTIONS TO FUTURE CONTENT:
In Unit 6, students extend their work with fractions in this unit to working with decimals. They expand their knowledge of the meaning of decimals to thousandths and add and subtract with decimals to hundredths. In Unit 7, students extend this work with fractions and decimals to the operations of multiplication and division.

MATH AT HOME:
- Games: Play *In Between (1.5), Roll Around the Clock (2.2), Fraction Track (2.5), Fraction Track to 2 (3.1), and/or Addition Compare with Fractions (3.3)* as a family. (accessible on the Savvas site)
- Use measuring cups to explore concrete examples of fractions and their sizes compared to one another.
- Review the Math Words and Ideas videos for this unit on Savvas Site.