6th – 8th Grade Functional Math Class
Students Will Know/ Students Will Be Able To...

Report Card Skill: Solve problems with ratio reasoning	
For this skill, students will know: - Difference between Ratios (comparison of one number to another) and Rates (comparison of 2 quantities measured in different units such as price per pound) - Various strategies to represent ratio situations	**For this skill, students will be able to:** - Recognize various situations as ratios - Identify missing number in a ratio - Write a ratio in 3 different ways - Model ratios using concrete and visual methods - Use multiplication skills to find equivalent ratios - Demonstrate several ways to solve ratios problems dealing with real world situations, including unit rates

Report Card Skill: Solve basic facts fluently	
For this skill, students will know: - The conceptual difference between +/- and x/÷ - Basic Facts x/÷ 0-9 - Strategies for difficult facts/problems, including deconstructing numbers to allow use of known facts (for instance, I don't know **7**x6, but I know **5**x6 and **2**x6 30+12 = 42) - Terminology related to x/÷ (product, factors, multiples, etc.)	**For this skill, students will be able to:** - Demonstrate a basic proficiency of fact knowledge and steady growth based on individual baselines - Use proficient facts in problem solving - Demonstrate an understanding of various properties of math related to multiplication/division (identity property, associative property, commutative property, etc.) and be able to use them in strategic ways. - Deconstruct numbers and use mental math strategies

Report Card Skill: Perform operations with fractions	
For this skill, students will know: - Basic fractions as a part of a whole or a part of a group - Difference between the numerator and the denominator - The "why" behind the basic operations when working with fractions	**For this skill, students will be able to:** - Identify fractions represented by models - Model fractions in various ways (unit bars, number lines, etc.) - Compare unit fractions - Compare fractions with unlike denominators - Add/subtract/multiply/divide basic fractions using concrete and visual models. - Use x/÷ to find common denominators or simplify.

Report Card Skill: Problem solves using a visual model	
For this skill, students will know: ● A basic 7 step strategy useful when solving 80% of word problems ● How to organize mathematical information neatly on a page ● Several ways to solve a given problem ● How to think algebraically	**For this skill, students will be able to:** ● Read and break down a word problem ● Create and label a visual unit bar model to demonstrate number sense and algebraic thinking ● Solve using various methods – showing all mathematical thinking in an organized way ● Write a complete sentence to answer the questions posed in the word problem. ● Reflect on their problem solving skills using a scoring rubric ● Create word problems of their own for others to solve

Report Card Skill: Create and solve basic equations with variables	
For this skill, students will know: ● The difference between a variable, a coefficient and a constant ● Several properties that are useful when problem solving with variables.	**For this skill, students will be able to:** ● Use variables when working with ratios or word problems ● Complete input/output tables ● Write and solve equations with variables to solve word problems ● Solve and graph equations representing proportional relationships.

Report Card Skill: Problem solves with basic shapes in geometry	
For this skill, students will know: • Basic terminology related to geometry • How to model area and perimeter in concrete ways	**For this skill, students will be able to:** • Demonstrate the area of basic shapes using concrete and pictorial representations • Deconstruct complex polygons into basic shapes to solve for area and perimeter • Solve for missing measurements (angles or sides) in a basic shape. • Solve for missing measurements using variables.