Dear Families,

Unit of Study: Math Fact Strategies (+,-) Up to 20.

Essential Questions for this unit:
1. How can we model addition and subtraction of whole numbers using different representations?
2. How are addition and subtraction related?

In this unit, students will use addition and subtraction fact strategies to solve problems up to 20. Students will use their knowledge of facts to 10 and putting together and breaking apart numbers to build facts up to 20. Students will solve one and two step word problems from all problem types: adding to, taking from, putting together, taking apart and comparing with unknowns in all positions. Students will use strategies based on place value and properties of operations.

Examples of Types of Word Problems students will learn about.

• **Take-from example:** David had 18stickers. He gave 9 to Susan. How many stickers does David have now? 18– 9= ?

• **Add to example:** David had 6 marbles. His grandpa gave him some more marbles for his birthday. Now he has 15 marbles. How much many marbles did David's grandpa give him? 6 +? = 15

• **Compare example:** David has 17 stickers. Susan has 14 stickers. How many more stickers does David have than Susan? 17 – 14 = ?

• **Take-from (Start Unknown)** David had some stickers. He gave 12 to Susan. Now he has 8 stickers. How many stickers did David have before ? - 12 = 8

In addition students will learn to …

- **Fluently add and subtract numbers to 20 using mental strategies.**

Mental strategies help students make sense of number relationships as they are adding and subtracting within 20. The ability to calculate mentally with efficiency is very important for all students. Mental strategies may include the following:
• Counting on
• Making tens (9 + 7 = 10 + 6)
• Decomposing a number leading to a ten (20– 6 = 14 – 4 – 2 = 10 – 2 = 8)
• Fact families (8 + 5 = 13 is the same as 13 - 8 = 5)
• Doubles (7+7=14)
• Doubles plus one (7 + 8 = 7 + 7 + 1)

- **Explain why addition and subtraction strategies work, using place value and the properties of operations.**