

Grade Level: Fourth Grade	Course Title: Math	Name of Unit: Topic 9 - Understand Addition and Subtraction of Fractions
CCSS	Content Competencies	
Course Standards: ● 4.NF.B.3.A ● 4.NF.B.3.d	● Students multiply and divide increasingly larger numbers, add and subtract numbers as fractions, and explain and carry out procedures for 3- and 4-sided shapes and standard measurement. ● Students use a variety of strategies to solve and verify reasonable 2-step problems that require different basic operations. ● Students choose a process and/or strategy to solve a problem and explain their thinking through various ways: writing, speaking, and illustrating. ● Students interpret and use information provided in various ways to solve a problem.	
	Transfer	
	[What kinds of long-term independent accomplishments are desired? <i>Students will be able to independently use their learning to ...</i>] Understanding addition and subtraction of fractions provide the foundation for... ● Multiplying fractions ● Adding fractions with denominators of 10 and 100 ● Fractions in data and measurement ● Fraction computation	

	Meaning	
Possible Resources: • Daily Common Core Review • Today's Challenge • Solve and Share • Visual Learning • Guided Practice • Independent Practice	UNDERSTANDINGS: <i>Students should understand that...</i> • Models can be used to show addition of fractions as joining parts of the same whole. • A fraction $\frac{a}{b}$, where $a > 1$, can be decomposed into the sum of two or more unit or non-unit fractions in one or more ways where the sum of the fractions is equal to the original fraction. • Two fractions can be joined or added to find the total. There is a general method for adding fractions with like denominators. • Models can be used to show subtraction of fractions as separating a part from the same whole. • The difference between two fractions with like denominators can be found by separating one fractional amount from the other. There is a general method for subtracting fractions with like denominators. • Fraction addition and subtraction can be thought about as joining and separating segments on the number line. They can also be thought about as counting forward or counting backward on the number line. • Fraction sums and differences can be estimated by thinking about how each fraction relates to other fractions that are easy to add and subtract mentally. • Adding and subtracting mixed numbers is an extension of the ideas and procedures for adding and subtracting fractions.	ESSENTIAL QUESTIONS: • How do you add and subtract fractions and mixed numbers with like denominators? • How can fractions be added and subtracted on a number line?

	• Two procedures for adding mixed numbers both involve changing the calculation to a simpler equivalent calculation. • Two procedures for subtracting mixed numbers both involve changing the calculation to a simpler equivalent calculation. These are extensions of the same procedures used for adding mixed numbers with like denominators. • Good math thinkers choose and apply math they know to show and solve problems from everyday life.	
	Acquisition of Knowledge	Acquisition of Skills
	<i>Students will know...</i> • How to use fraction strips and number lines to add fractions. • How to decompose a fraction or mixed number into a sum of fractions in more than one way. • How to solve problems involving joining parts of the same whole by adding fractions. • How to use tools such as fraction strips, area models, and number lines to subtract fractions. • How to solve problems involving separating parts of the same whole by subtracting fractions. • How to count forward or backward on a number line to add or subtract. • How to use number lines and benchmark fractions to estimate fraction sums and differences. • How to use models and equivalent fractions to add and subtract mixed numbers. • How to use equivalent fractions and properties of operations to add mixed numbers with like denominators.	<i>Students will be skilled at...</i> • Using fraction strips and number lines to add fractions. • Decomposing a fraction or mixed number into a sum of fractions in more than one way. • Solving problems involving joining parts of the same whole by adding fractions. • Using tools such as fraction strips, area models, and number lines to subtract fractions. • Solving problems involving separating parts of the same whole by subtracting fractions. • Counting forward or backward on a number line to add or subtract. • Using number lines and benchmark fractions to estimate fraction sums and differences. • Using models and equivalent fractions to add and subtract mixed numbers. • Using equivalent fractions and properties of operations to add mixed numbers with like denominators.

	• How to use equivalent fractions, properties of operations, and the relationship between addition and subtraction to subtract mixed numbers with like denominators.	• Using equivalent fractions, properties of operations, and the relationship between addition and subtraction to subtract mixed numbers with like denominators.
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