

Unit 6: Add and Subtract Fractions

Unit #:	APSDO-00016996	Duration:	20.0 Day(s)	Date(s)	02-01-2017
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Grade(s)
 5

Subject(s)
 Mathematics

Unit Focus

In this unit, students build upon the grade 3 and 4 standards. Students will generate equivalent fractions using fraction models as well as renaming a mixed number as an improper fraction. They will learn how to find both common and least common denominators which they will use to add and subtract fractions, including mixed numbers with unlike denominators. All students will be shown how to simplify fractions and are expected to insure that all fractional answers are in simplest form. Word problems are solved using addition and subtraction of fractions, including mixed numbers. Benchmark fractions will be used to assess the reasonableness of answers. Primary instructional materials for this unit include On Core and Everyday Mathematics.

Stage 1: Desired Results - Key Understandings

Standard(s)	Transfer
<p>Common Core <i>Mathematics: 5</i></p> <ul style="list-style-type: none"> • Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. For example, $\frac{2}{3} + \frac{5}{4} = \frac{8}{12} + \frac{15}{12} = \frac{23}{12}$. (In general, $\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}$.) <i>CCSS.MATH.CONTENT.5.NF.A.1</i> • Make a line plot to display a data set of 	<p>T1 (T12) Compose and decompose numbers to establish relationships and perform operations.</p> <p>T2 (T13) Move from one representation to another without changing the quantity.</p> <p>T3 (T21) Perform operations in a conventional order within the real and complex number system.</p> <p>T4 (T50) Based on an understanding of any problem, initiate a plan, execute it and evaluate the reasonableness of the solution.</p> <p>T5 (T53) Articulate how mathematical concepts relate to one another in the context of a problem or in the theoretical sense.</p> <p>T6 (T51) Examine alternate methods to accurately and efficiently solve problems.</p> <p>T7 (T52) Use appropriate tools strategically to deepen understanding of mathematical concepts.</p>

<p>measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Use operations on fractions for this grade to solve problems involving information presented in line plots. For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally. <i>CCSS.MATH.CONTENT.5.MD.B.2</i></p> <ul style="list-style-type: none"> Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. For example, recognize an incorrect result $\frac{2}{5} + \frac{1}{2} = \frac{3}{7}$, by observing that $\frac{3}{7} < \frac{1}{2}$. <i>CCSS.MATH.CONTENT.5.NF.A.2</i> 	Meaning	
	Understanding(s)	Essential Question(s)
	<p>U1 (U101) When objects/numbers are combined, mathematical rules guarantee the resulting quantity.</p> <p>U2 (U103) The same value can be represented in multiple ways.</p> <p>U3 (U503) Effective problem solvers try multiple strategies when struggling.</p> <p>U4 (U502) Effective problem solvers identify and apply an appropriate model, tool, or strategy.</p> <p>U5 (U511) Placing a problem in a category gives you a familiar approach to solving it.</p> <p>U6 (U562) Mastery of basic facts and rules maximizes conceptual and procedural fluency.</p> <p>U7 (U521) Evaluating arguments creates clarity about a problem, its model, and the viability of a solution.</p> <p>U8 (U305) Sets of measurements may display patterns.</p>	<p>Q1 (Q103) What is the value of this number/relationship and how can I represent it in different ways?</p> <p>Q2 (Q104) How do I use my number sense to perform operations?</p> <p>Q3 (Q503) What strategies/approaches are best for this problem?</p> <p>Q4 (Q504) What do I do when I get stuck?</p> <p>Q5 (Q510) What type(s) of problem is this?</p> <p>Q6 (Q563) How does being fluent with basic facts and rules help me solve a complex problem?</p> <p>Q7 (Q520) Does the argument/thought process/logic make sense?</p> <p>Q8 (Q306) How can I predict future values from a data set?</p>
	Acquisition of Knowledge and Skill	
	Knowledge	Skill(s)
	<p>S1</p> <p>Generate equivalent fractions using visual fraction models</p> <p>S2</p> <p>Rename a mixed number as an improper fraction</p> <p>S3</p> <p>Rename an improper fraction as a mixed number</p>	

		<p>S4 Find a common denominator</p> <p>S5 Find a least common denominator</p> <p>S6 Add and subtract fractions, including mixed numbers with unlike denominators</p> <p>S7 Solve word problems involving addition and subtraction of fractions, including mixed numbers, referring to the same whole</p> <p>S8 Use benchmark fractions and number sense of fractions to estimate and assess reasonableness of answers</p> <p>S9 Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$)</p> <p>S10 Solve problems involving information presented in line plots (operations with fractions)</p>
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