

Math: Grade 5, Lesson 3, Add Fractions

Lesson Objective: The students will add fractions.

Practice Focus: Add fractions with sums between 1 and 2

TN Standards: 5.NF.A.1

Teacher Materials:

- Paper
- Pens/markers/pencils

Student Materials:

- Paper and a pencil, and a surface to write on
- Student Practice Packet for Math, Grade 5, Lesson 3 which can be found at www.tn.gov/education

Teacher Do	Student Do
<p>Opening</p> <p>Hello! Welcome to Tennessee's At Home Learning Series for math! Today's lesson is for all our 5th graders out there, though all children are welcome to tune in. This lesson is the third in our series.</p> <p>My name is ____ and I'm a ____ grade teacher in Tennessee schools! I'm so excited to be your teacher for this lesson! Welcome to my virtual classroom!</p> <p>Today we will add fractions with sums between 1 and 2.</p> <p>If you didn't see our previous lesson, you can find it at www.tn.gov/education. You can still tune in to today's lesson if you haven't see any of our others. But, it might be more fun if you first go back and watch our other lessons since we'll be talking about things we learned previously.</p> <p>Before we get started, to participate fully in our lesson today, you will need:</p> <ul style="list-style-type: none">• Paper and a pencil, and a surface to write on• Student Practice Packet for Math, Grade 5, Lesson 3 which can be found at www.tn.gov/education <p>Ok, let's begin!</p>	<p>Student gets paper and a pencil.</p>
<p>Intro</p> <p>We have added fractions with like denominators.</p> <p>We have added fractions with unlike denominators.</p> <p>Today we will think about adding fractions with sums between 1 and 2.</p>	

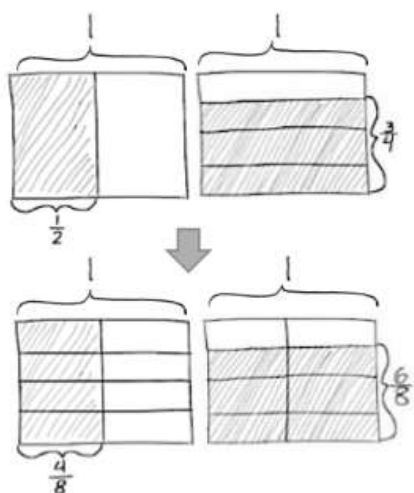
<p>Teacher Model</p> <p>[Write Problem 1] $\frac{1}{3} + \frac{1}{4}$</p> <p>When you see this problem, can you estimate the answer? Will it be more or less than 1? [pause]</p> <p>Since $\frac{1}{3} < \frac{1}{2}$ and $\frac{1}{4} < \frac{1}{2}$, then their sum must be less than 1.</p> <p>[Write Problem 2] $\frac{1}{2} + \frac{3}{4}$</p> <p>Can you estimate this answer? More than 1? Less than 1? [pause]</p> <p>$\frac{3}{4} > \frac{1}{2}$, and it is being added to $\frac{1}{2}$, so the sum must be greater than 1.</p> <p>What stops us from adding these fractions?[pause]</p> <p>The denominators (the units) are not the same. Recall that yesterday we used rectangles to add fractions. Let's try the rectangle strategy with this problem.</p> <p>[See figure one below]</p> <p>[Work the problem and explain the process. Remind the student to partition one rectangles horizontally and one vertically.]</p> <p>[Draw two rectangular fraction models] How many parts do I need to draw one half? That's right! I need 2.</p> <p>[Partition 1 rectangle into 2 units] How many parts should I shade and label to show one half? That's right! I need 1.</p> <p>Just like in the previous lessons, we label our picture with $\frac{1}{2}$. Now, let's partition this other rectangle horizontally. How many rows to show fourths? [Pause] That's right. 4.</p> <p>How many rows do I shade to represent three fourths? [Pause] You got it! 3.</p> <p>We bracket three fourths of this rectangle. Now, let's partition both wholes into units of the same size. How many parts do we need in each rectangle to make the units the same size? [Pause] You got it, 8.</p>	<p>Student thinks about whether it is more or less than 1.</p> <p>Student estimates the answer.</p> <p>Student realizes that the units (denominators) are not the same.</p> <p>Student draws the rectangles and partitions them.</p> <p>Student responds.</p> <p>Student responds.</p> <p>Student responds.</p>
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<p>[Partition the models] What is the fractional value of one unit now? [Pause] That's it! One-eighth.</p> <p>Eighths is the like unit or common denominator. We can decompose $\frac{1}{2}$ into eighths. How many eighths are equal to 1 half? [Pause and point to the 4 boxes bracketed by $\frac{1}{2}$] That's right! There are 4 eighths.</p> <p>How many eighths are the same as $\frac{3}{4}$? [Pause and point out the 6 boxes bracketed by $\frac{3}{4}$] You got it! 6 eighths.</p> <p>Let's say the addition sentence now using eighths as our common denominator. 4 eighths plus 6 eighths equals 10 eighths. $1\text{ half} + 3\text{ fourths} = 4\text{ eighths} + 6\text{ eighths} = 10\text{ eighths}$.</p> <p>Excellent! What is unusual about our answer 10 eighths? [Pause] That's it! The numerator is larger than the denominator. It is okay to have an answer of 10 eighths or we could write it as an equivalent mixed number because 10 eighths is more than 1 whole.</p> <p>Let's try that! How many eighths are in a whole? [Pause] Yep! There are 8 eighths in a whole.</p> <p>8 eighths plus what equals 10 eighths? [Pause] You got it. 2 eighths.</p> <p>That gives us one whole and 2 eighths. As a mixed number.</p> <p>What, I heard someone say they used fourths. Good idea! We know that 2 eighths is equal to 1 fourth. Our answer could also have been 1 and one-fourth. Great job!</p>	<p>Student responds.</p> <p>Student responds.</p> <p>Student responds.</p> <p>Student responds.</p> <p>Student responds.</p> <p>Student responds.</p>
<p><u>Guided Practice</u> You try this one, then we will do it together. [see figure two] [Write $\frac{4}{5} + \frac{1}{2}$] Are you ready? Solve this problem using rectangles and then we will go over it together!</p> <p>[Pause and give time to work] Okay! How did you do? Check your work as I work the problem. [Work</p>	<p>Student works the problem.</p>

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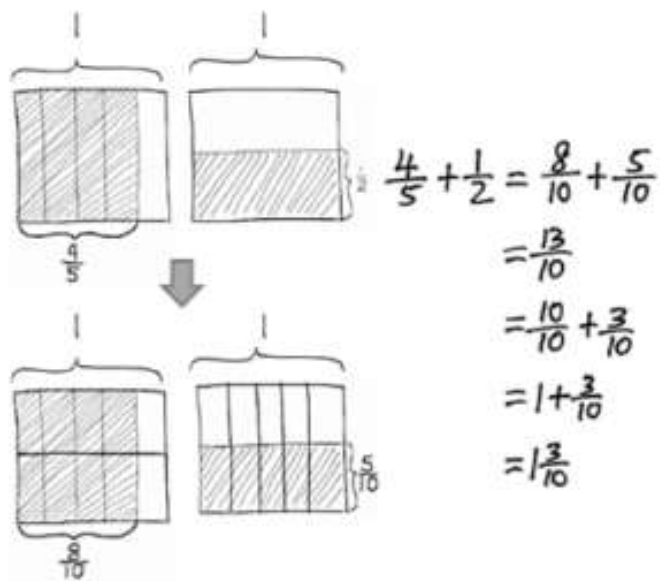
out the problem and explain your steps as you go. Make sure to talk students through changing 10 thirteenths into a mixed number]	Student checks his work against the teacher's work.
<u>Independent Practice</u> Wow! That was great work. Today we have practiced adding fractions with sums between 1 and 2. You sure did a great job! After the video, you will have some problems to practice on your own. Good luck and do your best!	
<u>Closing</u> I enjoyed learning about fractions with you today! Thank you for inviting me into your home. I look forward to seeing you in our next lesson in Tennessee's At Home Learning Series! Bye!	

Figure one



$$\begin{aligned}
 \frac{1}{2} + \frac{3}{4} &= \frac{4}{8} + \frac{6}{8} \\
 &= \frac{10}{8} \\
 &= \frac{8}{8} + \frac{2}{8} \\
 &= 1 + \frac{2}{8} \\
 &= 1\frac{2}{8} \text{ or } 1\frac{1}{4}
 \end{aligned}$$

Figure two



$$\begin{aligned}
 \frac{4}{5} + \frac{1}{2} &= \frac{8}{10} + \frac{5}{10} \\
 &= \frac{13}{10} \\
 &= \frac{10}{10} + \frac{3}{10} \\
 &= 1 + \frac{3}{10} \\
 &= 1\frac{3}{10}
 \end{aligned}$$

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