



Addition: The Make Tens Strategy

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Let's take a look first at that "Make Ten" strategy. So as a reminder of what that strategy is, let's consider the problem 48 plus 35. In the make ten strategy, students are thinking about how they can make a 10. They're noticing, for example, that 48 is really close to 50 and maybe wishing or hoping that that were 50 and could they work with that. And so they think about taking two away from the 35 and giving it to the 48 to make a new expression, 50 plus 33. Now if your students are struggling to think about why that works, you might ask them to imagine a situation of having maybe two cups filled with jelly beans. And in this we have 48 jelly beans, and over here we have 35 jelly beans. And we ask them to think about that situation and think about what happens to that total if we just move two little jelly beans over from the 35 to the 48. And so that will help students understand why taking from one addend and giving it to the other preserves the total. So let's think about how this strategy can apply with three-digit numbers. So, for example, we might work with 495 plus 329 and in this situation, the student might notice, or think, that 495 is really close to 500. So in this case, instead of making a 10, they're actually thinking about making a hundred or a power of 10. And so they're thinking about if I had five more over here, that would be much nicer to work with. But to get that 500, I am essentially taking that five away from the 329. So I would be left in that other cup with 324. I have now created an easier problem to solve, and that problem is 824. Let's take a look at a little bit different three-digit example. Let's start with 354 plus 487. Hmm, let's think about making tens on that. How can I use that same strategy, same thinking? Well, in this case, I might think about how that 487, that feels closer to a benchmark number. So, hmm, maybe I first think about if I had three more over here, if I think about first of all moving a three, I would





have 351 plus 490. Well, that's getting easier to work with, but I wonder if there's something more we can do. And so, again, the student might think about, well, maybe I can make that a multiple of a hundred. Maybe I can make that 500. So, you can actually apply this strategy more than once. In this case, whoops, sorry. In this case, I want to move over a 10. And so, I can again find that equivalent expression, but this time, we get 341 plus 500. So this idea of making a 10 or making a power of 10 can be applied as many times as we want. Keep getting a simpler expression each time, and now this is something I can solve easily, 841. Continuing with whole number, let's take a look at 1,298 plus 635. How can you use this make ten thinking that we've explored here on our new expression? And maybe you're noticing that this addend over here is really close to a multiple of 100. Maybe you think about moving two over. And if we do that, we would have 1,300 plus 633. And again, an easier expression to solve, 1,933. Let's think about how we can use the same thinking with decimals. How about 4 and 98 hundredths plus 3 and 74 hundredths? How can you use the same thinking on our new problem? Maybe you're noticing that 98 and just like that, boy, that takes us really close. We've got to make those zeros somehow. But what do I need to do? I need to add two hundredths. So I can move two hundredths over, and that would give me a five over here. And I could write that as simply five or I could write that with those zeros placeholders for the hundredths and tenths. And I need to move over two hundredths. So I would have three and 72 hundredths. And again, easier to solve. Now I can solve that and know that is eight wholes and 72 hundredths. Now let's take a look at how this strategy extends to fractions. We can take a look at three and seven eighths plus two and three eighths. And we'd want students to think about how this is very close to four wholes. And in fact, if it was just one more eighth, we would have four. So I could actually take that one eighth over from the two and three eighths, and that



would give us four plus two and two eighths. That would give us six whole and two eighths, and we could choose to simplify that as six and one fourth. If your students are kind of struggling to make sense of why this works, why it's okay to move over an eighth, We could think again about using a context that helps illustrate that. Maybe we picture this as having milk in a measuring cup. And so, our measuring cup is marked off, and having that three and seven eighths is just a little bit below that four cup line. And over here, we have that measuring cup again marked off, and that two and three eighths was one, two, and kind of about there, right? When visualizing that milk, we can visualize pouring, picking this cup and pouring in that one eighth and so our level over here will rise to the four, and our level over here will drop by one eighth.