Family Letter
5th Grade Addition and Subtraction of Decimals

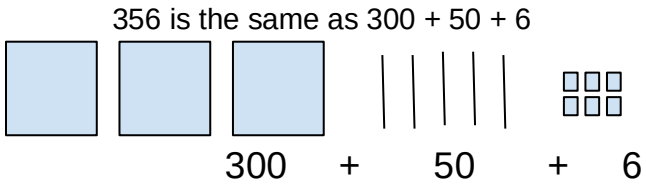
Dear Family,

Focus of the Unit

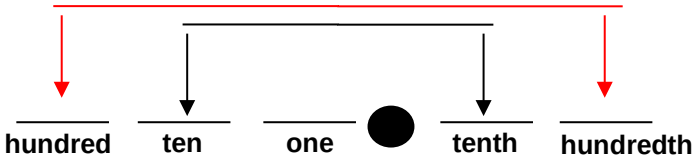
This unit on addition and subtraction of decimals builds on the knowledge of addition and subtraction that students have used with whole numbers in all previous grades. Students also use their understanding of the place value system to help them add and subtract with decimals.

Building off Past Mathematics

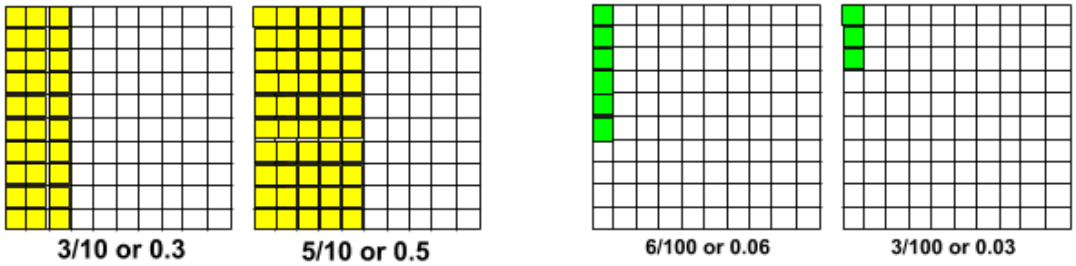
In previous grade levels, students learned that the operation of addition is joining together more than one quantity and subtraction is removing or finding the difference between numbers. Students have also learned that numbers can be broken apart by the value of each digit in the number (expanded form):



In fourth grade, students were introduced to decimal numbers and modeled the connections between whole numbers and decimal place value.

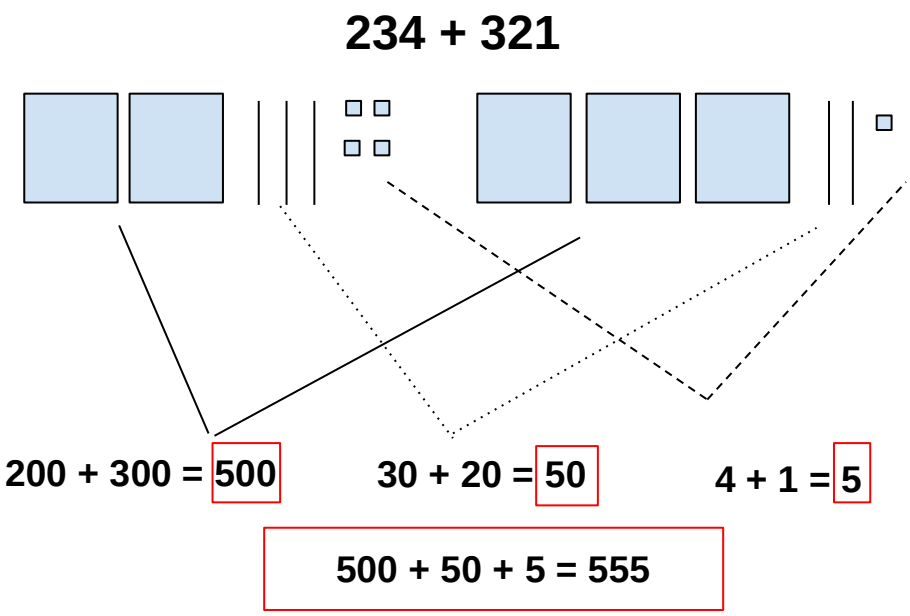


In fourth grade, students also modeled the connections between fractions and decimals. They represented tenths and hundredths with models and used the models to make comparisons:

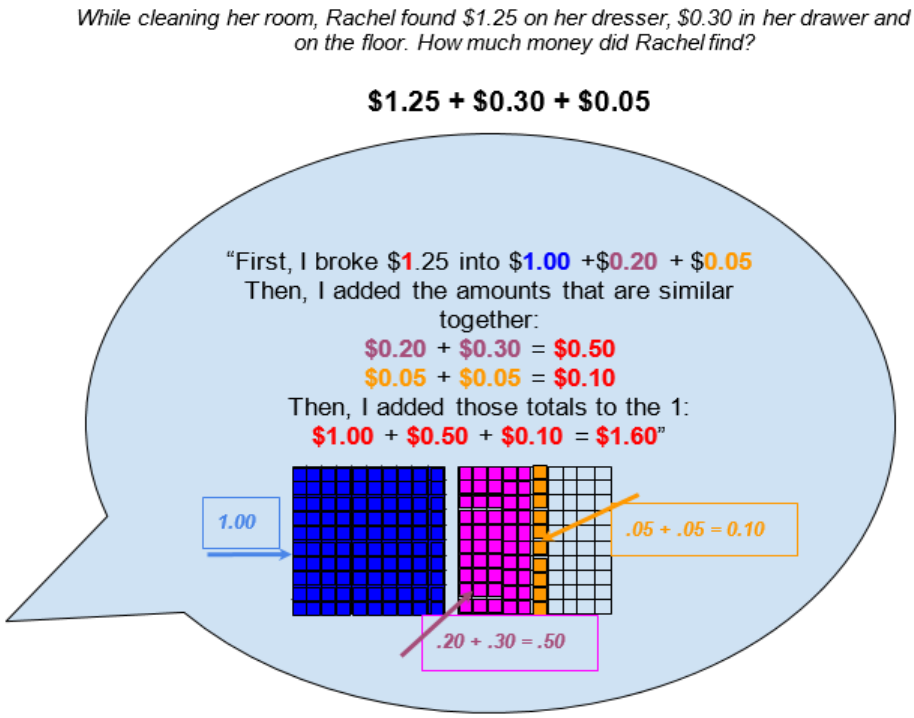


Strategies that Students Will Learn

Students will learn that adding and subtracting decimals is very much like adding and subtracting whole numbers. When adding and subtracting whole numbers, it is often helpful to represent the number in expanded form and then add similar values together. See example:



The same is true for adding and subtracting decimals. See the Student #1's explanation below:

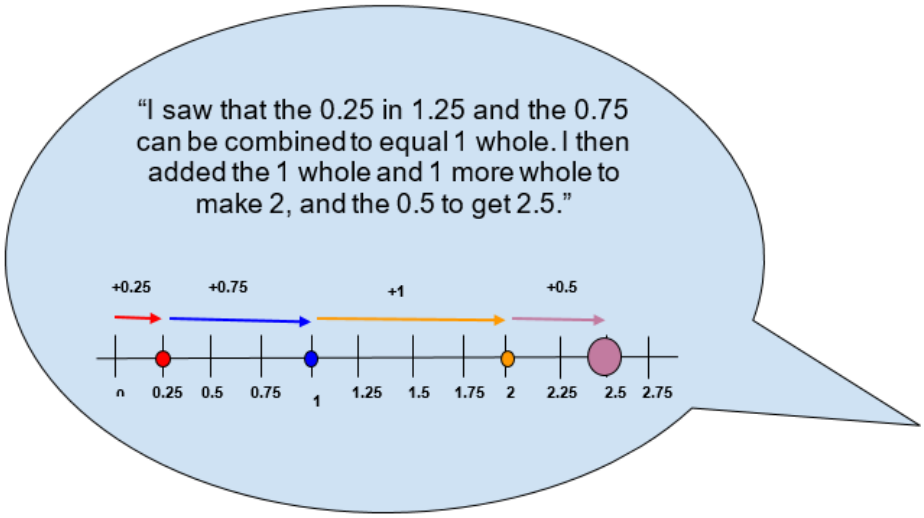


Students often have difficulty remembering the value of the parts of the numbers they break apart. It is very important that students represent and justify their thinking with the use of models, as shown in the student explanation above.

Students may also choose to use a number line to represent their thinking. See Student #2's explanation:

Grandma's recipe calls for 0.75 cups of oil, 0.5 cups of water and 1.25 cups of milk. How many ounces of liquid are in her recipe?

0.75 + 0.5 + 1.25

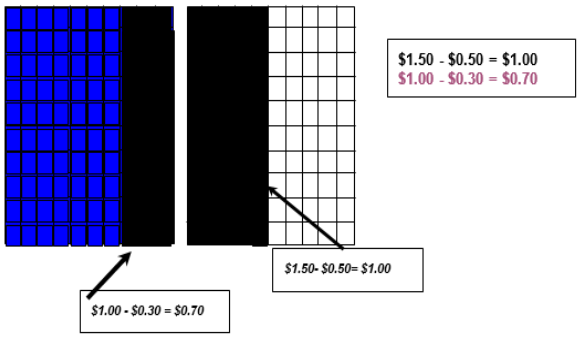


Students use these same ideas dealing with parts of numbers when subtracting decimals:

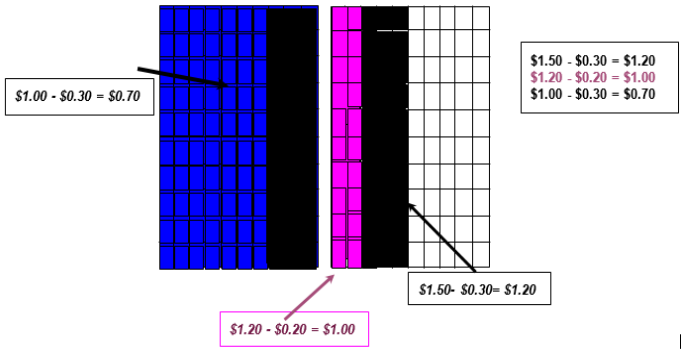
Angie had $1.50 when she went shopping this morning. She spent $0.30 on a pack of gum and $0.50 on a bottle of water. How much money does she have left?

$1.50 - $0.30 - $0.50

A student might choose to subtract $0.50, then take the remaining $0.30. Then, take away the remaining $0.50. This leaves Angie with $0.70.



A student might also choose to subtract $0.30, then take the remaining $0.20 left before taking from the whole dollar. Then, take away the remaining $0.50. This leaves Angie with $0.70.



Ideas for Home Support

We see decimals on a daily basis and we add and subtract them regularly. As you spend time with your child, notice decimals in your daily interactions and point them out. Decimals are used in reference to things that are less than 1 (0.5 cup) or in reference to something that is in between two whole things (13.1 miles). Counting money is also a great way to reinforce the idea of breaking apart a quantity to create a new quantity, such as Student #1's response. Consider having a change jar that you and your child can count regularly to reinforce this idea.

Thank you for serving as partners in your child's success as a mathematician!
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