

Place Value Align

Grade 5

Addition and Subtraction with Decimals

2 levels

Probing Questions

- How do you determine where to put the first number?
- How do you determine where to put the second number?

What Do the Standards Say

Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. CCSS.Math.Content.5.NBT.7

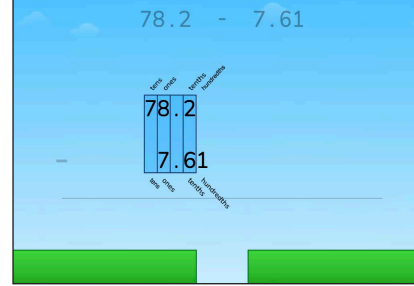
Supporting Struggling Students

The animation shows the names of the place values. This provides the reason why it's important to line up the decimal points. Just like fractions need a common denominator, decimals need a common place value. For example, tenths need to be added to or subtracted from tenths.

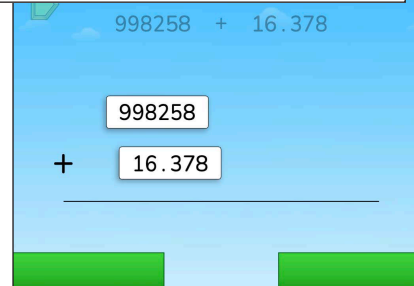
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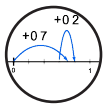
The animation shows the names of each of the places.



In Level 2, students must align a whole number that doesn't have a decimal point.



Addition and Subtraction with Decimals - 1



Estimate Addition and Subtraction Number Line

Grade 5

Addition and Subtraction with Decimals

4 levels

Probing Questions

- "How do you know where to place the blue marker?"
- Do you have to find the exact answer to solve the problem? Why or why not?

Something to Think About

If students have a sense of the relationships in decimal numbers, they will be able to solve them visually rather than with paper and pencil. For example, understanding that 0.5 is half way between two numbers will allow students to estimate where a sum or difference using .2 or .7 will be on the number line.

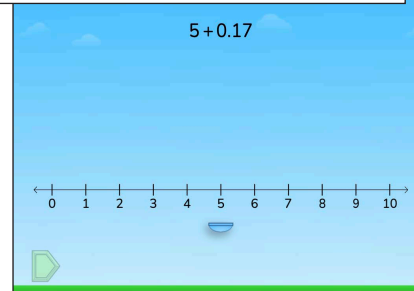
Classroom Connection

Project a puzzle and ask students to share their strategies. Ask them if it's necessary to get the exact answer. See if students can come up with a more efficient way of doing these puzzles by estimating.

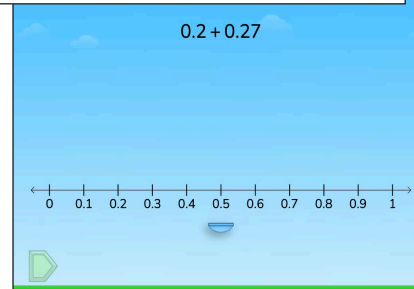
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In Levels 1 and 2 the number line goes from 0 to 10.



In Level 3, the number line is from .5 to 1.5. In Level 4 it goes from 0 to 1.



Addition and Subtraction with Decimals - 2



Place Value River

Grade 5

△ Addition and Subtraction with Decimals

📄 3 levels

Probing Questions

- How do you know whether to add or subtract?
- How do you know how much to add or subtract?

Classroom Connection

Discussing different methods of solving these problems with the class will help students articulate their thinking, use the correct language, and focus attention on the important elements of place value.

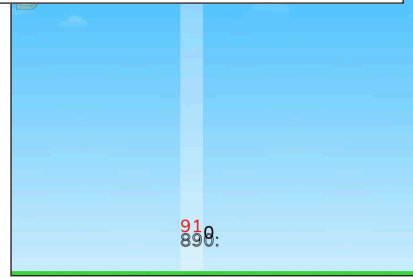
What Do the Standards Say?

Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. CCSS.Math.Content. 5.NBT.7

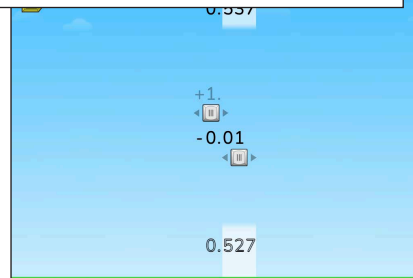
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If students struggle, make sure they're watching the feedback in the animation.



Choose the number to add or subtract by clicking and dragging.



Addition and Subtraction with Decimals - 3



Arithmetic Algorithm

Grade 5

△ Addition and Subtraction with Decimals

📄 5 levels

Probing Questions

- What happens if you need to regroup?
- Why do the stacks only go up to 9?

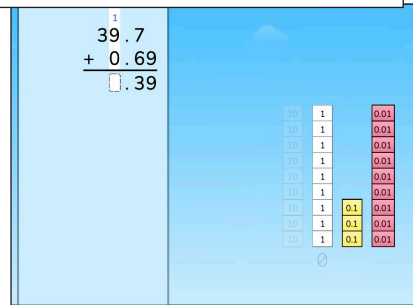
Supporting Struggling Students

Students may benefit from access to paper and pencil, particularly for the subtraction problems in Levels 2 and 3. The animation provides a visual proof for the algorithm that students are taught and will provide them with additional insight.

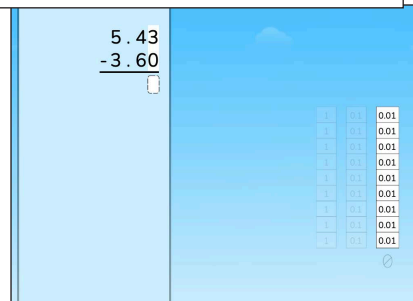
Stop the Animation

The animation can be used to show regrouping visually. Slowing it down with the scrub bar will allow you to help students understand the reasons behind each step in the algorithm.

Some puzzles require students to select zero. Make sure students know where to click to represent this.



Level 1 puzzles show addition, Level 2 shows subtraction, and Level 3 has both.



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Addition and Subtraction with Decimals - 4