

Lesson 13: Analyze Addition Mistakes

Standards Alignments

Addressing 5.NBT.B.7

Teacher-facing Learning Goals

- Add decimals to the hundredths place using strategies based on place value.

Student-facing Learning Goals

- Let's use place value strategies to add decimals.

Lesson Purpose

The purpose of this lesson is for students to add decimals and consider common errors in lining up place values when adding with the standard algorithm.

In previous lessons, students used strategies based on place value and properties of operations to add decimal numbers including the standard algorithm. The purpose of this lesson is to highlight the importance of adding the same place values when making vertical calculations with decimals. This issue does not arise when adding whole numbers as the numbers are always aligned to the right, starting with ones, then tens, and so on. For decimal numbers it is more complicated because the last digits in two decimals, such as 5.18 and 16.7, may not have the same place value. Rather than aligning these numbers to the right as shown here

$$\begin{array}{r} 5.18 \\ + 16.7 \\ \hline \end{array}$$

they need to be aligned by place value. After examining this alignment error, students practice adding decimals taking care to add using the correct place values.

Access for:

Students with Disabilities

- Engagement (Activity 2)

Instructional Routines

Estimation Exploration (Warm-up), MLR3 Clarify, Critique, Correct (Activity 1)

Lesson Timeline

Warm-up 10 min

Teacher Reflection Question

Reflect on a time your thinking changed about something in class recently. How will you alter

Activity 1	20 min
Activity 2	15 min
Lesson Synthesis	10 min
Cool-down	5 min

your teaching practice to incorporate your new understanding?

Cool-down (to be completed at the end of the lesson)

 5 min

What is the Error?

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Student-facing Task Statement

The calculation below has an error.

$$\begin{array}{r}
 38.7 \\
 + 9.46 \\
 \hline
 13.33
 \end{array}$$

1. Explain the error.
2. Find the correct value of $38.7 + 9.46$.

Student Responses

1. The decimal places are not lined up so the 30 in 38.7 is treated like it's only 3.
- 2.

$$\begin{array}{r}
 38.70 \\
 + 9.46 \\
 \hline
 48.16
 \end{array}$$