

Rounding with Number Lines

STRAND: Number and Number Sense

STRAND CONCEPT: Whole Number and Decimal Rounding

SOL 4.3b, 5.1

Remediation Plan Summary

Students will use number line or student invented strategies to round numbers to the nearest hundredths.

Common Misconceptions

- Some students will use the last digit to round any digit. For example: Students with this misconception would, when rounding to the nearest whole number, round 7.48 to 8 rather than 7 since the last digit is larger than 5.
- When the students learn rounding using the strategy to underline the digit and look to the number to the right, if it's 5 or higher round up and if it's 4 or lower round down. Some students will round down to the number below the original. For example: When rounding 43 to the nearest tens, a student might round it to 30 since the number to the right is less than 4.

Materials

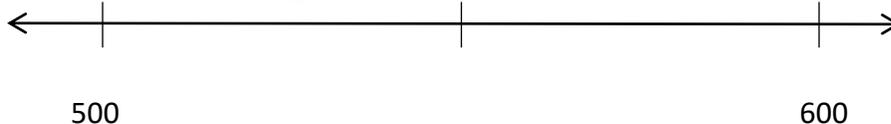
- Number lines with hash marks representing wholes different fractional pieces (halves, fourths, tenths).

Introductory Activity

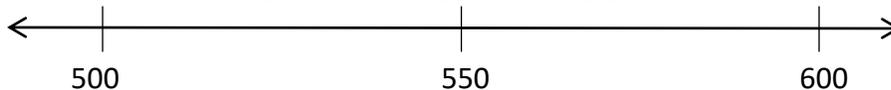
- Pose the following questions: *“How would you estimating \$4.85, to the nearest dollar amount? How about \$9.29? What strategy did you use to determine the dollar amount? “How would you round 8.72 to the nearest whole number? Would you approach it the same way as the first question?”, “What strategy did you use?”*

Plan for Instruction

- Display the number 530. Ask students to round the number to the nearest hundreds. Discuss the strategies students used to round the number. Make sure to display the different strategies for all students to see. If the number line was not addressed in the discussion, draw one and ask students, *“How could I use this number line to round the number 530? Encourage students to think about the number being rounded and how they could use the place being rounded to label the two end hash marks.*



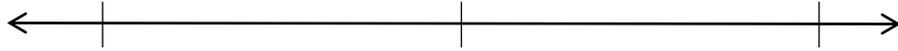
Next discuss how the middle hash mark could be labeled.



AR Remediation Plan – Whole Number and Decimal Rounding

(If it was discussed, make sure all students understand how to use it)

- Either hand students a number line with three hash marks or instruct them to draw one on their paper. Display each of the following numbers on the board (721, 889, 109, and 995) and ask students to round each number using the number line or their own strategy. Discuss each one as needed.



- Ask the students, “How would the number line change if we were rounding 42 to the nearest tens?” Students should say, “40 would be the first mark and 50 would be the last. 55 is in half way between 40 and 50 so it would go on the mark in the middle.”
- Have students round the following numbers to the nearest tens discussing each as needed. (28, 83, 107, and 16.5) Notice the numbers are scaffolded to include values that go beyond the tens and decimals.



- Ask the students, “How would the number line change if we were rounding to the nearest ones? Tenths? Hundredths? Discuss the differences in the number lines and then have students practice rounding with each place value.
 - Ones: (8.6, 2.01, 21.7, and 102.9),
 - Tenths: (0.72, 0.18, 1.52, and 19.27)
 - Hundredths: (0.256, 0.982, 1.847, 22.414)
- Once students are comfortable using the number line or own strategy give them other numbers and have them round to different place values.

Pulling It All Together (Reflection)

“How would you use a number line to round 6.098 to the nearest hundredth? Explain your answer.”