

# Rounding Whole Numbers

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- Strand:** Number and Number Sense
- Topic:** Rounding whole numbers, 9,999 or less
- Primary SOL:** 3.1 The student will  
b) round whole numbers, 9,999 or less, to the nearest ten, hundred, and thousand.
- Related SOL:** 3.1a, 3.1c

## Materials

- Number Line Recording Sheet (attached)
- Newspaper ads
- Index cards

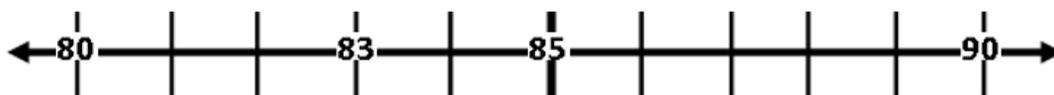
## Vocabulary

*closer to, digit, estimation, hundred, numeral, place value, rounding, value, skip counting, ten, thousand*

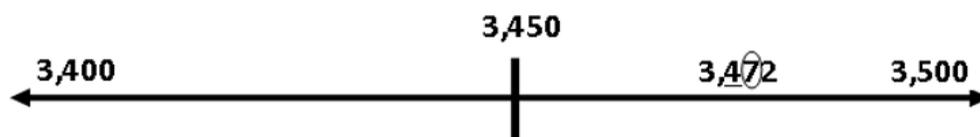
## Student/Teacher Actions: What should students be doing? What should teachers be doing?

*Note: This lesson may take more than one class session. You may choose to focus on rounding to the nearest ten in one session and build from there.*

1. Explain and model rounding numbers by using a number line to determine the nearest ten, hundred, or thousand (depending on the place to which you want to round). Ask the following questions:
  - a. “How can we use a number line to round 83 to the nearest ten?”
  - b. “When skip counting by tens, which two tens does 83 come between?” (Between 80 and 90) Represent this on a number line like the one below.
  - c. “Which number is halfway between these two tens? How do you know?” Record 85 on the number line.
  - d. Place 83 on the number line. Now ask, “Which ten is 83 ‘closer to?’”



2. Explain to students how rounding can be used as a strategy for estimating.
3. As students develop greater number sense and have more experience at rounding within larger numbers, transition into using a blank number line. Ask students:
  - a. “How can we use a blank number line to round 3,472 to the nearest hundred?”
  - b. “When skip counting by hundreds, which two hundreds is 3,472 between?” (3,400 and 3,500)
4. “What number is halfway between these two hundreds? How do you know?” (3,450)  
“Where does the number 3,472 go on the number line?” (between 3,450 and 3,500)  
“Which hundred is 3,472 ‘closest to?’” (3,500).



2. Distribute copies of the Number Line Recording Sheet, and have students use it to round five given numbers to various specified places. Explain and model another strategy for rounding: underlining the place value to which you want to round and then circling the numeral you need to consider to determine which ten, hundred, or thousand it is “closest to” (example above).
3. Give students a number, 9,999 or less, and a list of rounded numbers. Have the students identify which rounded number correctly matches the given number rounded to a particular place (e.g., Given number: 3,472; Rounded numbers: 3,000, 3,400, 3,470; Which rounded number matches the given number rounded to the nearest ten?).

### Assessment

- **Questions**
  - What is 3,384 rounded to the nearest hundred?
  - How did you determine the numbers to use on the number line to round a given number?
  - How does the strategy for rounding stay the same or change as the number to be rounded gets larger?
- **Journal/writing prompts**
  - In your own words, explain your strategy for rounding.
  - List some real-world situations in which you would want to use estimation, and explain why.
- **Other Assessments**
  - Have students use prices from the classified section of the newspaper (auto sales and real estate) to find numbers for rounding.
  - Have students estimate the cost of a meal from a menu by rounding the items purchased to the nearest ten and finding the sum of the rounded numbers.

### Extensions and Connections (for all students)

- Ask the students to discuss when it is appropriate to round or estimate in real life. List students’ ideas on the board.
- Provide this scenario to the students:
  - Susan and Johnny were given the number 2,486 to round to the nearest hundred.
  - Susan realized that 2,486 was between the 2,000 and 3,000. She decided 2,486 was closest to 2,000, so when rounded to the nearest hundred 2,486 would round to 2,000.
  - Johnny realized that 2,486 was between 2,400 and 2,500. He decided 2,486 was closer to 2,500, so when rounded to the nearest hundred 2,486 would round to 2,500.

- Now ask the students which child used the correct rounding strategy for the given problem and why. What could the students teach Susan in order for her to get the correct answer?

### **Strategies for Differentiation**

- Use a number line graphic organizer.
- Use color coding to help with rounding. For example, have students underline in one color the place value to which they are asked to round. Then, have students circle in another color the numeral they need to consider to determine whether they should round up or round down.
- Display a variety of numbers on the number line to challenge the students' number sense.
- Use colored markers to emphasize numbers when writing on a number line.
- Have students create a human number line to demonstrate how to round a number.
- Have students create a set of number cards with various place values underlined, indicating that the number is to be rounded to this place. Then, have students create a second set of number cards that are the rounded numbers matching the first set of cards. Have students play a matching game with the cards.

**Note: The following pages are intended for classroom use for students as a visual aid to learning.**

### Number Line Recording Sheet

