

Lesson Title: Rounding to the Nearest Thousands

Context/Grade Level: This lesson is designed for a 3rd grade class at Stonehouse Elementary School. The class consists of 18 students, six of which have learning disabilities.

Objective(s): Students will round four digit whole numbers to the nearest thousand.

SOL Strand: Number and Number Sense
Focus: Place Value and Fractions

SOL: 3.1 (2009) The student will
b) round whole numbers, 9,999 or less, to the nearest ten, hundred, and thousand

Materials/Resources:

- Doc Camera and pencil/paper
- Laptop and internet
- String and bead for number line manipulative
- Math journals

Approximate time required: 1 hr

Content and Instructional Strategies:

1. Review rounding to the nearest ten and hundred that the students learned about in the previous lesson. Write 345 on paper under document camera and round to the nearest ten using number line method discussed in previous lesson. The number line method involves first determining the upper and lower boundaries (closest multiples of ten) to which the number could be rounded. When rounding 345 to the nearest, the boundaries would be 340 and 350. Then write a number line with 340 and 350 as end points and 345 as the center. Plot 345 on the number line and show that because the number falls in the center it is rounded up to 350. Also explain that due to the fact that the 5 in the ones place is greater than or equal to 5, then the number in the tens place is rounded up to 350. Ask one student to come up and round 345 to nearest hundred using same method.
2. Write 657 on paper under document camera and round to nearest ten using circle and underline method discussed in previous lesson. Then ask one student to come up and round 657 to the nearest hundred using same method.
3. Let students know that they can also round to the nearest thousand. Write 1,672 on paper under document camera and explain that rounding to nearest thousand is very similar to rounding to the nearest ten and hundred. Model rounding to the nearest thousand using the number line method. Draw number line with 1,000 and 2,000 as endpoints and 1,500 as the center mark on paper beneath doc camera. Place the number 1,672 on the number line to the right of the center

- mark (1,500). Explain that since the number 1,672 is to the right of 1,500 the number is rounded up to 2,000.
- Using manipulative consisting of string, a bead, and a marker indicating the center of the line ask two students to come up to help with the demonstration. Explain that the string represents the number line and the bead represents the number that must be rounded. Hold one end of the string, have one student hold the other end, and have the other student move the bead to represent where the number is on the number line. For example, to model 1,340 explain that the two endpoints are 1,000 and 2,000 and that the center marker represents 1,500. Ask one student to move the bead to the location of 1,340 on the number line. Ask class to describe whether 1,340 is rounded down to 1,000 or rounded up to 2,000 based on the position the number line. Students' responses should explain how since the number falls to the left of the center mark (1,500) it is rounded down to the nearest thousand (1,000).
 - Model rounding to nearest thousand using the circle and underline method from previous lesson. Round 1,672 to the nearest thousand. To use the circle and underline method, underline the digit in the thousands place and circle the digit to the right (the digit in the hundreds place). If the number to the right is less than five, the underlined number stays the same and the rest of the digits to the right of the underline digit are changed to zeros. If the number to the right is greater than or equal to five, then the underlined number increases by one and the digits to the right of the underlined digit are changed to zeros. For the example, 1,672 underline the 1 because it is in the thousands place and circle the 6 because it is in the place to the right of the underlined digit. Since "6" is greater than 5 you must round the underlined digit up. The answer will be 2,000.
 - Give three practice problems with rounding to the nearest thousand using both the circle and underline method and numberline method, asking students to complete the problems with partners in their math journals.
 - Review rounding to nearest ten and nearest hundred now using four digit numbers. Model rounding to the nearest ten and hundred using circle and underline method. Then give two practice problems, one rounding to the nearest ten and the other rounding to the nearest hundred, which the students can work in pairs to complete.
 - Tell students that they will now use what they have learned about rounding to play a rounding game online. Open website (www.free-training-tutorial.com/rounding-games.html) in browser and model Shark Rounding Game for students. The object of the game is to select the shark with the answer to each rounding question. If the correct shark is chosen then it will explode into small pieces. Ask students to come up one at a time to play the game.
 - After playing the game, students will be given three problems to complete independently in their math journals. They will round three numbers to the nearest thousand, hundred, and ten using the underline and circle method. If students struggle with the underline and circle method, students can be given the number line manipulative to work with.

Evaluation/Assessment:

Formative assessment will take place as students come up to review rounding to the nearest ten and hundred. Additionally, students will be observed when using the number line manipulative.

At the conclusion of the lesson, the following questions will be written down for students to complete in their math journals. If students struggle they can use the number line method in addition to solidify the concept.

1. Round to the nearest thousand. Use underline and circle method.

3,450

2. Round to the nearest hundred. Use underline and circle method.

4,679

3. Round to the nearest ten. Use underline and circle method.

5,989

Differentiation and Adaptations:

Students with learning disabilities can be given dry erase markers and wipe off boards to work with and given the opportunity to use the number line manipulative when completing problems. When it comes to assessment of rounding these students would benefit from numbers that are already underlined and circled. They would also benefit from being able to verbally explain how to round the numbers in place of drawing out the number line or circle/underline.