

Just In Time Quick Check
Standard of Learning (SOL) 4.1c

Strand: Number and Number Sense

Standard of Learning (SOL) 4.1c

The student round will whole numbers expressed through millions to the nearest thousand, ten thousand, and hundred thousand.

Grade Level Skills:

- Round whole numbers expressed through millions to the nearest thousand, ten thousand, and hundred thousand place.
- Identify the range of numbers that round to a given thousand, ten thousand, and hundred thousand.

Just in Time Quick Check

Just in Time Quick Check Teacher Notes

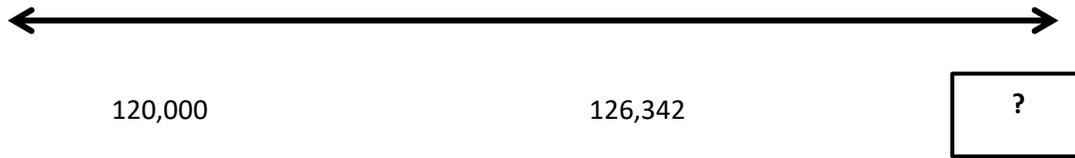
Supporting Resources:

- VDOE Mathematics Instructional Plans (MIPS)
 - [4.1c - Rounding: Identifying the Range](#) (Word) / [PDF Version](#)
 - [4.1c - Rounding Match](#) (Word) / [PDF Version](#)
- VDOE Word Wall Cards: Grade 4 ([Word](#)) | ([PDF](#))
 - Place Value Position
 - Round

Supporting and Prerequisite SOL: [4.1a](#), [3.1b](#), [2.1d](#)

SOL 4.1c - Just in Time Quick Check

1. Jon creates a number line to round 126,342 to the nearest ten thousand.



Jon writes the multiples of ten thousand that come before and after 126,342 on the number line. What number did Jon write on the number line?

Explain your answer.

2. A student rounds 56,132 to the nearest thousand. The student writes 55,000 as the answer. Is the student correct or incorrect? Explain your thinking.

3. Round 417,895 to the nearest:

Thousand	
Ten Thousand	
Hundred Thousand	

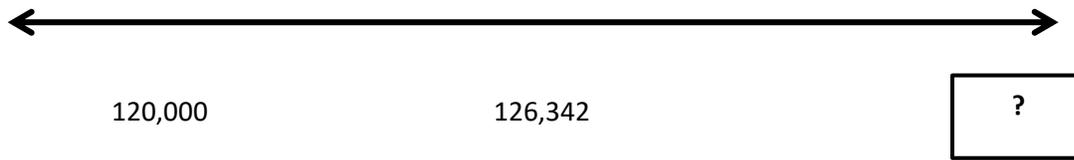
4. Round 1,958,276 to the nearest hundred thousand.
5. What is the smallest number that rounds to 30,000? Explain your thinking.

What is the largest number that rounds to 30,000? Explain your thinking.

SOL 4.1c - Just in Time Quick Check Teacher Notes

Common Errors/Misconceptions and their Possible Indications

1. Jon creates a number line to round 126,342 to the nearest ten thousand.



Jon writes the multiples of ten thousand that come before and after 126,342 on the number line. What number did Jon write on the number line?

Explain your answer.

Some students may struggle determining the boundary numbers when rounding to a specified place value. In this problem, the ten thousand that occurs after 126,342 is 130,000. Some students may answer this question with a number that is after 126,342, but not in the accurate place value multiple. Example: 127,000 is a rounded number after 126,342 but it is the next thousand, not the next ten thousand.

These students may benefit from multiple opportunities to round using a number line. Provide practice identifying and writing the thousand, ten thousand, and hundred thousand numbers that occur before and after a variety of whole numbers. Rounding with a number line also reinforces the idea of rounding as “closest to” which will help students as they apply this concept.

Teachers may also consider having students create personal charts that list consecutive thousand, ten thousand, and hundred thousand to help develop a deeper understanding of the magnitude of these numbers and their relationships to each other.

2. A student rounds 56,132 to the nearest thousand. The student writes 55,000 as the answer. Is the student correct or incorrect? Explain your thinking.

A common student error is to incorrectly use the lower boundary number as the upper boundary when rounding. In this question, the student knows that 56,132 is between two 5-digit thousands. However, she uses 55,000 as the lower multiple instead of using 56,000 which is the actual thousand before and nearer to 56,132.

Another possible error can occur if students are thinking procedurally about numbers. If students have been taught to round “down”, they may misinterpret it to mean that they have to go down one number from the number that is listed. In this example, they are looking at the 6 in the thousands place and may round it “down” to 5, resulting in 55,000.

These students may benefit from opportunities to think about numbers to round in terms of boundary numbers. As students identify boundary numbers, they need to think about the number they are rounding and ensure that it falls between the upper and lower bound numbers they have determined. After students confirm that their boundary numbers are reasonable, they can then begin to think about determining the location of their number

and which boundary number it is closer to. A number line can be very helpful when thinking about boundary numbers and rounding.

3. Round 417,895 to the nearest:

Thousand	
Ten Thousand	
Hundred Thousand	

Some students may be comfortable when rounding to the largest place value, but struggle when rounding to place values within a number. An example of this would be rounding a 6-digit number to the nearest thousand.

These students may benefit from practice working with number lines that count by one thousand, ten thousand or hundred thousand and then determining the accurate placement of the number that they are rounding. For example, using 417,895, a student might be given a number line that starts at 400,000 and is marked every 10,000 up to 500,000. The student would then need to determine that 417,895 falls between 410,000 and 420,000. Students could then progress to open number lines and determining the boundaries on their own.

Another strategy could be for students to isolate a portion of the number to determine the boundaries for rounding. For example, students rounding 417,895 to the nearest ten thousand may benefit from thinking about 17,895. Once students determine that 17,895 falls between 10,000 and 20,000, they can relate this understanding back to the original number, realizing that 417,895 falls between 410,000 and 420,000.

4. Round 1,958,276 to the nearest hundred thousand.

Some students may not recognize the first digit in the number may change, even though the first digit may not be the place value they are rounding. In this item, 1,948,276 rounded to the nearest hundred thousand is 2,000,000, not 1,900,000 or 1,100,000.

These students may benefit from using number lines and determining boundary numbers to build conceptual understanding of the idea of rounding as “closest to” rather than thinking of rounding as a digit focused procedure. Teachers may wish to provide students with a place value chart up to the hundred million place. Give students practice opportunities to use the chart to write the given number and then to identify those numbers that are the upper and lower bounds for each place value.

Other practice opportunities to increase student number sense could include naming the consecutive numbers in a number pattern established by the teacher, such as counting by 1000s, 10,000s and 100,000s. Number chants should include movement beyond numbers like 100, 1000, 10,000, 100,000 and 1,000,000 in order for students to develop number sense and fluency with number patterns that will transfer to accurately rounding numbers.

5. What is the smallest number that rounds to 30,000? Explain your thinking.

What is the largest number that rounds to 30,000? Explain your thinking.

Students may struggle determining the lower and upper extremes when thinking about the range of numbers when rounding. A strategy that may help these students would be to build conceptual understanding using number lines. As students place numbers on a number line and then determine how the number should be rounded, ask students to explain their thinking using the number line. Then use the number line to encourage students to think about the largest and smallest numbers that could round to that number. For example, a student may place 32,812 on a number line and determine that it comes between 30,000 and 40,000, but is closer to 30,000. As students discuss this number line, ask them how they know the number is closer to 30,000. Ask students to name other numbers between 30,000 and 40,000 that round to 30,000. Then ask them to determine the point on the number line where numbers would begin rounding to 40,000. Close by asking students to determine the largest number that would round to 30,000.