

**Lesson Plan Template for Elementary Field Experience**

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Grade Level: 4th
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**Topic:** Rounding Numbers

**Essential Questions:** (What question(s) will students grapple with as they learn through this lesson?)

* How does rounding help us in real life?
* How do we know whether we round up or down?

**Primary Content Objectives:**

Students will **know:** (facts/information)

* If the digit is less than 5, they must leave the digit in the rounding place as it is, and change the digits to the right of the rounding place to zero.
* If the digit is 5 or greater, they must add 1 to the digit in the rounding place and change the digits to the right of the rounding place to zero.
* Know the key terms (rounding, number line, midpoint, and benchmark numbers) for this lesson.

Students will **understand**: (big ideas)

* Understand that rounding gives a close number to use when exact numbers are not needed for the situation at hand.
* Understand strategies for rounding.

Students will be able to **do:** (skills and behaviors)

* Round whole numbers expressed through the one millions place to the nearest thousand, ten thousand, and hundred thousand place.
* Locate the benchmark numbers, midpoint, and the given numbers on a number line.
* Use a number line to round numbers to a specified place within a number.

**Related state or national standards:** (Examples include State Standards of Learning, Common Core State Standards, Next Generation Science Standards or National Curriculum Standards for Social Studies)

VSOL 4.1 The student will

a) identify orally and in writing the place value for each digit in a whole number expressed through millions;

c) round whole numbers expressed through millions to the nearest thousand, ten thousand, and hundred thousand.

**Assessment: (**How (and when) will students be assessed? What evidence will you collect to determine whether students have met the lesson objectives? Will the assessment(s) be a pre-assessment (diagnostic), formative (ongoing feedback) or summative?)

* **Pre-assessment:** This lesson will be a review of rounding numbers. Therefore, a pre-assessment has already been given.
* **Formative assessment:** Throughout the lesson, the teacher will be assessing students informally through observations. Watch for participation during ongoing class discussions to see if they can locate benchmark numbers, midpoint, and the given number on a number line. Provide them with specific feedback on their responses and ask questions such as: “What number do you need to underline when you are rounding to the nearest ten? Where’s the ten thousands place? When the next number is 5 or more, then do you round up or down?” During this review lesson, students will be asked to complete the rounding numbers worksheet (See appendix A) to assess their understanding on this concept. Teacher will then collect them at the end of the lesson, evaluate, and create a differentiated lesson on the areas of improvement.

**Materials and Resources:**

* White boards
* Dry-erase markers
* Rounding numbers worksheet (See appendix A)

**Key Vocabulary and Definitions:**

* **Rounding**: estimating; finding a number that is close to a given number
* **Number Line:** a visual representation of all real numbers
* **Midpoint:** the number that is right in between two benchmark numbers
* **Benchmark numbers:** two numbers that a number falls in between

**Lesson Procedures:**

1. **Introduction and goal orientation:**

Teacher will be working with struggling students in small groups. Say, “As we learned about rounding numbers last week, we will continue to practice rounding so we’ll be rounding experts. Before we do anything, I want to introduce the rounding song that will help you remember how to round correctly.” Show them the video: <https://www.youtube.com/watch?v=3afU6JQG15I> Ask, “So, what are the steps to rounding again?” “When the next number is 4 or less, what do you do?” “When 5 or more, what do you do?” Some potential responses may be “Circle the number in the place you want to round to and underline the next number.” “If the next number is 5 or bigger, you need to add 1 to your circled number and if it’s 4 or smaller, then you don’t do anything to the circled number.” Say, “Great! You guys seem to remember what we talked about last week.” [3-4 min]

1. **Connecting to prior knowledge and experiences: (Questions or activities that help students make links)**

Before starting the lesson, review the key terms, which include rounding, number line, midpoint, and benchmark numbers. Ask the following questions to activate their prior knowledge. Call on a student and ask, “(Student’s name), can you explain what rounding is? What is another word for rounding?” A potential response may be “Estimating!” Call on a different student and ask, “What are benchmark numbers?” Potential responses may be “The two numbers that are at the ends of a number line” and “The numbers you use to figure out if you’re going to round up or down” Clarify the definitions of the key terms and any confusion, if any, by reiterating/rephrasing. Students are expected to already know these key terms from the previous lessons. Ask, “Why do we even learning how to round numbers? In other words, when does rounding become helpful in real life situations?” Take a few responses. Potential responses may be “When you ask your parents to give you money to buy a book, you need to tell them how much it is. You can tell them the book is about $4.00 instead of $3.82.” “Sometimes, I’m too lazy to write all the numbers down when there are so many.” “It’s hard to remember when a number is made out of many different numbers! So, you put the estimate instead.” Say, “Yes! Thank you for your great responses! We need to know how to round because it helps us in many ways. I want to show you an example on this number here.” Draw a curved number line (number hill) on a white board. Write “bakery” and “pizza” at the ends of the number line and mark the midpoint. Then, write a student’s name somewhere in between bakery and the midpoint and the other in between the midpoint and pizza. When finished labeling, say, “So, on the number line, we have (Student 1) and (Student 2) and they are both starving. Would (Student 1) go to the bakery or the pizza place? And why?” Potential responses may be “Bakery! Because she is closer to the bakery” “She will go to the bakery because it’s shorter distance and it will take her shorter time to get there.” Ask the same question about student 2. “Yes! In this situation, if you didn’t know which place you were closer to, then you might’ve spent extra energy because you ended up going to the farther place instead. Like this example showed, rounding is one of the most useful math skills we can have. It relates to all sorts of different areas of math such as measurement, data, time, space, and number operations. It allows us to make good judgments about how much time, energy, and money we will need. If you master this skill, you will save a lot of time, energy, and sometimes even money!” [10 min]

1. **Tasks and activities: (What challenging tasks and activities will students engage in as they construct knowledge, learn new skills or behaviors and develop understandings?)**

Say, “Now, we’re going to try some problems on the number line.” Pass out the rounding numbers worksheet. Do first few problems with them. “Let’s do the first one together. The number is 168,356 and we are rounding it to the nearest ten thousand. So, what number is in ten thousands place?” Have students answer. “Great! So you will circle the first 6 and underline the next number, which is 8. Now, what would the benchmark numbers be then? What numbers are we counting by?” Potential responses may be “The benchmark numbers are 100,000 and 200,000.” “The benchmark numbers are 160,000 and 170,000” “We are counting by…10s!” Explain clearly why the benchmark numbers are 160,000 and 170,000 by saying “The benchmark numbers for 168,356 when we are rounding it to the nearest ten thousand are 160,000 and 170,000. I want you to pay attention to the number you’ve underlined. Since 8 is greater than 5, you need to round up. How do we know the benchmark numbers, though? When you are trying to figure out the benchmark numbers, you look at the circled number and whatever you have on the right side of it will become zeros. So, your first benchmark number will be 160,000 and the other benchmark will be 170,000. Then, what would be the midpoint of these numbers? It will be 165,000. Midpoint refers to the number that is right in the middle of the benchmark numbers. Now, you’re going to mark 168,356 on the number line.” Mark 168,356 on the number line (in between 165,000 and 170,000). Then say, “Now, we know that this number will slide down to 170,000 because it’s closer and you can never go up the hill. Remember, that’s the rule!” “Now, I want you to try some of these problems on your own for practice. I’m here to help you so feel free to ask me any questions.” During this time, teacher will constantly make observations on their work as a formative assessment and provide one-on-one assistance, if necessary. [15-20 min]

1. **Closure: (How will you wrap up the lesson and reinforce key ideas? Closure may include some form of assessment or exit slip)**

During closure, ask students about the key ideas to assess their understanding. Say, “Thank you guys for such a great effort.” and ask, “How do you figure out the benchmark numbers? Midpoint?” “How does rounding help you in real life?” Take a few responses and collect the rounding numbers worksheets from all students for evaluation. [4 min]

**Differentiation:** How will you modify the content (what is learned), the process (how the content is mastered) or product (how the learning is observed and evaluated) to support diverse learners? Describe additional supports that can be used for re-teaching if needed, and a challenging extension for students for demonstrate mastery quickly or show evidence of a lot of prior knowledge.

 This lesson targets struggling students particularly. Therefore, differentiation would not be necessary as much. However, teacher may provide more examples using base-ten blocks to support severely struggling students to better understand the concept. Use of base-ten blocks will allow them to grasp the place value concept, which will help them learn rounding more effectively.

Appendix A- Rounding Numbers Worksheet

**Round each number to the place value specified. On the right side, locate the benchmarks, midpoint, and the number given on the number line (number hill).**

