**Lesson Plan #1**

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| **Name:** | **311**  |  | **Course:** | Math |  | **Grade:** | 6th |
| **Unit:** | Addition and Subtraction of Decimals |
| **Big Idea:** | Operations with Decimals |
| **Subconcept:** | Numerical calculations can be approximated by replacing numbers with other numbers that are close and easy to compute mentally. |
| **Literacy Strategy(s):** | Word Wall, Small Group & Large Group Discussion, Note taking, Read a Textbook |
| **Lesson:** | Estimating Sums and Differences |  | **Date Taught:** | October 20 |
| **Learning Objective(s):** |
|  |  Students will be able to | Describe the relationship between rounding and estimation. |
|  | Students will be able to | Estimate sums and differences of decimals |
|  | Students will be able to | Recognize over- and under-estimates |
|  | Students will be able to  | Calculate sums and differences of decimals |
| **Idaho Standards (or National Standards if no Idaho Standards exist):** |
| 6M111, 6M121, 6M122, 6M131, 6M132, 6M133 |

**Detailed Description of Lesson:**

Begin with discussion of when you might not need to know that exact sum or difference of numbers. Use the discussion to determine a definition of estimation. Once a definition is settled upon, have students write it on the top of their assignment paper. Pose problem from page 62B and have students work in pairs to complete and then come back to class to share strategies. Make sure students identify the fact that they rounded the addends. Pose another addition problem for pairs and review. Pose a subtraction and review. Discuss what they might have done differently. Have students complete another subtraction problem. Read story problem from Visual Learning pg. 62. Ask students how they know that an exact answer is not necessary for this problem. Have students brainstorm in groups of 4 “Words to the Wise” regarding estimation. Post words on bulletin board. As students finish have them begin completing problems 1-5 with teacher guidance. Have students brainstorm in their groups an appropriate answer for #6. After 3 minutes, have groups share their ideas. Discuss and consolidate group answers to complete problem 6 as a class. Students will continue working problems in their text through problem 17.

**Handouts: None**

**Student Work: See attached**

**Reflection:** This lesson worked OK. The kids really respond well to the Think-Pair-Share strategy, and I have used it in the past. They really enjoy the Word to the Wise portion, and I think it helps them later on in working with problems that ask for estimations rather than exact answers. It gives me something tangible to remind them with rather than just trying to ‘jog’ their memories. They have some problems with determining where they are supposed to round the individual numbers to, and we will continue to work on that. This issue stems from a lack of number sense and realizing what the actual size of numbers is. We keep hitting at this as we move along, and I hope that it will eventually ‘click’ in the minds of those kiddos who still struggle with it. The blocks that I have used in the past don’t seem to make the connection with the kids. They still cannot visualize that a hundredths is larger than a thousandth, as I think it may be counterintuitive to them. It makes it hard for them to round numbers with any consistency, but by allowing kids to go back and correct their mistakes, it helps to reinforce skills. We are going back as a group and revisiting numeration and all of the decimal operations. I hope to improve on the strategies that I used previously to see if I can execute them better.

**LIMSST Project Literacy Lesson Reflection Form**

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| --- | --- | --- | --- | --- |
| **Name:** | **311** |  | **Date lesson was taught:** | **October 20** |
| **Lesson Title/Topic Areas:** |
| **Estimating Sums & Differences (Lesson 1)** |

**Literacy Strategies Used:**

(Please discuss what literacy strategies you embedded in this lesson. What were your goals in using these strategies? Be specific and use as much detail as possible.) Small & Large Group Discussion – students were posed with a problem and could work in their pairs to discover the process. As this was an initial introduction for these students (this year) my goal was to have students use the expertise of their peers to help them recall previous knowledge. This strategy, along with the Word Wall, was also implemented to help establish long term vocabulary recall and differentiation with the terms *rounding* and *estimate*.

**Student Response to the Lesson:**

(Was the strategy effective? Were students able to read/write as needed in this lesson? What attitudes were displayed? How did specific

 students and/or the class do? How did the literacy strategy aid in developing student understanding of the topic? Cite specific evidence from the samples of student work)

Working in pairs allows kids to use someone else’s brain to begin with, and then they more easily into using their brain to add to or correct their partner’s ideas. Sometimes they will even agree on an incorrect answer, and it will take another pair to square them up. They work well together, regardless of what grouping I place them in, which is novel.

**Lesson Reflection:**

(What worked well with this lesson? What challenges did you encounter in this lesson? Would you change certain aspects of the lesson or the questions that you asked? How does this influence future lesson planning?)

Students responded well to the literacy strategies used in this lesson. They still have a hard time understanding estimation, the process, but they do recognize that it is “easier” and so will ask me if they “can estimate on this one?” I would like to continue working on dispelling the myth that an estimate is a guess. This has caused a lot of problems for some students, especially in working with decimal fractions.

**Relationship to Previous Instruction:**

(Have you taught this lesson/topic prior to the LIMSST project? If so, how did your teaching of this lesson differ from what you taught before? How did students’ reactions to this lesson differ?)

I didn’t complete the Word Wall piece in previous years. I think that the students like seeing their work on the wall and, when they remember, they utilize the definitions to help them with their problem solving.