Alexander Palma

Alexjmpalma.com   contact@alexjmpalma.com

Common Core (Singapore) Math
4th Grade Comparing Decimals Lesson Plan

1. **Goal** –
    The learning goal for this lesson is to familiarize students with comparing decimals using representations (number lines, decimal place value chart, hundredths grids) and to have them understand the use of "greater than" "less than" and "equal to" "least" "greatest" when comparing decimals. Students will use this to then find missing decimals in simple more/less than patterns.

2. **The national and/or state standard addressed are English Language Arts Common Core Standards:**
    4.NF.7
    Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions (e.g., by using a visual model).

3. **Overall 30 day goal(s) –**

    A. Say and express hundredths as decimals and fractions.
    B. Show mixed numbers and improper fractions as decimals.
    C. Use place value to represent decimal numbers.
    D. Use models to show and interpret hundredths.

4. **Week (2) Learning Target(s) –**
    *   Compare decimals using representations (decimal grids, base ten models, and number lines).
    *   Compare decimals using benchmarks (0, 0.5, and 1.00)

5. **Connections –**
    *   This lesson builds on previous lessons by having the students use what they've learned identifying the place and value of each digit in a decimal and expressing decimals in hundredths to now compare decimals using models.

6. **Materials**-
    *   1 ruler and math notebook for each student
    *   10 cm of string per student
    *   1 pair of scissors per student
    *   Decimal place value chart, number lines, and hundredths grid ppt for teacher.
    *   Singapore Math 4B Textbook per student
    *   Matching decimal pattern flashcards

7. **Instructional Activities**

   Introduction:

   Write down these measurements on the board: 0.6cm, 5cm, 1.8cm. Explain that they will be measure and cutting the different lengths from a string that will be given to them. They will then be arranging the strings in order from shortest to longest on their desk and raising their hand when they are done. Give each student a 10cm string.

   Draw <,>,= on the board. Practice pronunciation of each symbol and have the students point to the correct symbol as you say it. Then the students will add the symbols and meanings into their Math notebook.

   Project the "comparing fractions 7.3" ppt with the prepared hundredths grids and number lines displaying 0.23 and 0.18. Ask students to use their mini whiteboards to answer each question. Display first hundredths grid and number line (0.22) and ask what the value of each box is in the hundredths grid (0.01) and then ask how many boxes we would fill in if we wanted to show what is 0.01 more than 0.22. Repeat for the number line. Show new hundredths grid (0.18) and ask what is 0.01 less than 0.18. Repeat for the number line.
   Ask students: 0.1 more than 1.2 is _____. 0.5 less than 4.9 is _____. 0.02 more than 6.24 is_____. 0.04 less than 7.16 is _____.

   Pair work:

   Board: "0.2, 0.4, 0.6, 0.8, 1.0…" and tell the students that these numbers follow a pattern. Ask: What are the next two decimals? *Students use math notebook to answer* (1.2 and 1.4) How much did you have to add to get the next number after 1.0?
   Board: "1.32, 1.27, 1.22, 1.17, 1.12" Ask: what are the next two decimals in this pattern? (1.07, 1.02) *Students use math notebook to answer*. *Make sure they are using *more than, less than* when speaking.
   Ppt: "the missing numbers in each pattern" ppt slide. Students work in pairs to figure out the next two decimals in each pattern and also drawing and marking the full patterns on a number line on their whiteboards. Monitor for understanding.

   Activity:

   Tell class that each pair will be getting a flashcard. The flashcard will have either a set of 4 decimals OR 2 decimals. Each flashcard that has 2 decimals fits a pattern for one of the 4 decimal flashcards. They must find the flashcard that matches with theirs, then the two pairs must put the full pattern onto a number line on the board.

8. **Assessment** –

   The formative assessment will be an exit slip with a number line (0.5 – 0.7). students answer two questions **1**. 0.01 more than 0.55 is _____ **2**. 0.03 less than 0.6 is _____. They must mark the decimals for each answer onto the number line. Weekly Math 4B workbook pages 9-12 will also be used to assessed progress at end of the week.