Lesson Plan: Adding and Subtracting Decimals

Common Core Standard: 5.NBT.B.7 – Add and subtract decimals up to thousandths.
Grade Level: 5th Grade
Subject: Mathematics
Duration: 3 Days
Lesson Focus: Students will learn how to add and subtract decimals to the thousandths place. They will practice these skills in real-world applications, such as handling money transactions and making measurement conversions.

Materials:

- Whiteboard and markers
- Decimal place value charts
- Calculators (optional)
- Worksheets with decimal addition and subtraction problems
- Sample money (coins, bills)
- Measuring cups or rulers for conversions
- Paper and pencils
- Projector/Smart Board (for visual explanations)

Lesson Objectives:
By the end of the lesson, students will be able to:

1. Add and subtract decimals to the thousandths place.
2. Use decimal addition and subtraction in practical scenarios such as handling money and converting measurements.
3. Apply decimal operations to real-world situations.

Day 1: Introduction to Adding Decimals
Objective: Students will understand how to add decimals up to the thousandths place and align decimal points correctly.

Procedures:

1. **Introduction (15 minutes):** Begin with a brief review of place value (tenths, hundredths, thousandths). Use a decimal place value chart to visually explain how decimal numbers are read and written.
2. **Demonstration (15 minutes):** Demonstrate how to add decimals by aligning the decimal points. Example:

```
  12.345
+  4.567
--------
```

Show students how to line up the decimal points, add digits column by column, and carry over as needed.

3. **Guided Practice (20 minutes):** Provide students with a few decimal addition problems to solve in pairs. Walk around to offer support and correct any mistakes. Example problems:

```
  3.45
+ 7.89
------
```

```
  5.67
+ 2.34
------
```

4. **Independent Practice (15 minutes):** Assign a worksheet with additional decimal addition problems for students to complete on their own.
   Homework/Extension: Assign practice problems for students to complete at home or as a class exit ticket.

Day 2: Introduction to Subtracting Decimals
Objective: Students will learn how to subtract decimals up to the thousandths place.

Procedures:

1. **Review from Day 1 (10 minutes):** Quickly review the steps of adding decimals, ensuring students have a strong grasp of decimal alignment.
2. **Demonstration (20 minutes):** Demonstrate how to subtract decimals by aligning the decimal points. Example:

```
  8.23
- 5.67
------
```

Show students how to borrow when needed, especially when subtracting from smaller values.

3. **Guided Practice (20 minutes):** Provide students with subtraction problems and have them work in pairs. Walk around and provide assistance. Example problems:

```
  9.75
- 4.86
------
```

```
  7.20
- 3.57
------
```

4. **Independent Practice (10 minutes):** Have students work on a worksheet with subtraction problems. Monitor progress and assist as needed.
   Homework/Extension: Assign a set of decimal subtraction problems to reinforce the lesson.

Day 3: Applying Decimal Operations in Real-World Scenarios
Objective: Students will apply their knowledge of adding and subtracting decimals in practical scenarios like handling money and converting measurements.

Procedures:

1. **Introduction to Real-World Applications (15 minutes):** Discuss with students how adding and subtracting decimals is important in daily life, such as shopping, measuring ingredients, and managing money. Provide examples of money transactions (e.g., buying multiple items, giving change) and measurement conversions (e.g., converting lengths, weights).
2. **Money Transaction Activity (20 minutes):** Give each student a set amount of play money or have them work in pairs to "buy" items with decimal prices (e.g., $2.45, $3.99). Have students calculate how much change they would get after paying with different amounts. Example:

```
  $4.50 (toy price)
- $10.00 (amount paid)
--------
  $5.50 (change)
```

3. **Measurement Conversion Activity (15 minutes):** Provide a worksheet with problems where students need to convert measurements (e.g., converting 0.75 liters to milliliters, or subtracting measurements in decimal format). Example:

```
  1.75 meters
- 1.25 meters
-------------
  0.50 meters
```

   Have students use decimal subtraction to solve the problems.

4. **Class Discussion and Wrap-Up (10 minutes):** Ask students to share how they used decimal addition and subtraction to solve the problems. Discuss the importance of decimals in money, measurements, and other real-world tasks.

Assessment:

- Observe students during guided and independent practice for accuracy.
- Review completed worksheets to ensure correct understanding of decimal operations.
- Provide a short quiz on decimal addition and subtraction at the end of the lesson.

Note: Clean-up:

- Collect all materials, such as money, measuring tools, and worksheets.
- Ensure all students put away their materials neatly.

Differentiation and Accommodation for ELL and ESE Students:

- **For ELL students:** Provide visual aids (e.g., charts, real-world pictures) to demonstrate how decimals work. Offer bilingual dictionaries or peer support to explain concepts.
- **For ESE students:** Simplify the word problems and provide extra time to complete the assignments. Pair students with strong peers for support during group activities.