Topic D

Adding and Subtracting Decimals

5.NBT.2, 5.NBT.3, 5.NBT.7

Focus Standards:

- **5.NBT.2**
  Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.

- **5.NBT.3**
  Read, write, and compare decimals to thousandths.
  a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (1/1000).
  b. Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.

- **5.NBT.7**
  Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

Instructional Days: 2

Coherence
- Links from: G4–M1
  - Place Value, Rounding, and Algorithms for Addition and Subtraction
- Links to: G6–M2
  - Arithmetic Operations Including Dividing by a Fraction

Topics D through F mark a shift from the opening topics of Module 1. From this point to the conclusion of the module, students begin to use base ten understanding of adjacent units and whole-number algorithms to reason about and perform decimal fraction operations—addition and subtraction in Topic D, multiplication in Topic E, and division in Topic F (5.NBT.7).

In Topic D, unit form provides the connection that allows students to use what they know about general methods for addition and subtraction with whole numbers to reason about decimal addition and subtraction (e.g., 7 tens + 8 tens = 15 tens = 150 is analogous to 7 tenths + 8 tenths = 15 tenths = 1.5). Place value charts and disks (both concrete and pictorial representations) and the relationship between addition and subtraction are used to provide a bridge for relating such understandings to a written method. Real-world contexts provide opportunities for students to apply their knowledge of decimal addition and subtraction as well in Topic D.
A Teaching Sequence Toward Mastery of Adding and Subtracting Decimals

Objective 1: Add decimals using place value strategies, and relate those strategies to a written method. (Lesson 9)

Objective 2: Subtract decimals using place value strategies, and relate those strategies to a written method. (Lesson 10)