



Topic D

Student Explanations for Choice of Solution Methods

2.NBT.7, 2.NBT.8, 2.NBT.9

Focus Standards:	2.NBT.7	Add and subtract within 1000, 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. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.
	2.NBT.8	Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.
	2.NBT.9	Explain why addition and subtraction strategies work, using place value and the properties of operations. (Explanations may be supported by drawings or objects.)
Instructional Days:	2	
Coherence	-Links from: G1–M2	Introduction to Place Value Through Addition and Subtraction Within 20
	-Links to: G3–M2	Place Value and Problem Solving with Units of Measure

Topic D focuses on the application of the tools and concepts presented in Topics A through C. Students synthesize their understanding of addition and subtraction strategies and then use that understanding to determine which of those strategies to apply to a variety of problems, including number bond problems and problems with the unknown in all positions (e.g., $200 + \underline{\quad} = 342$ or $\underline{\quad} - 53 = 400$).

Students then discuss and analyze their chosen methods and determine which method is most efficient for the given problem type. For example, when digits are close to the next ten or hundred (e.g., $530 - \underline{\quad} = 390$), some students might use related addition and mentally add on tens and hundreds, while others might solve the same problem using arrow notation.

Working with these problems provides a sound foundation for future work with word problems. Listening to peer explanations can make certain strategies more accessible for students who struggle; it also allows for more time and practice to achieve mastery.

A Teaching Sequence Toward Mastery of Student Explanations for Choice of Solution Methods

**Objective 1: Choose and explain solution strategies and record with a written addition or subtraction method.
(Lessons 19–20)**