

## NJDOE MODEL CURRICULUM PROJECT

<b>CONTENT AREA: Mathematics</b>	<b>GRADE: 2</b>	<b>UNIT: # 4</b>	<b>UNIT NAME: Addition and Subtraction Using Place-Value, and Measurement</b>
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#	STUDENT LEARNING OBJECTIVES	CORRESPONDING CCSS
<b>1</b>	Apply properties of place value to mentally add or subtract 10 or 100 to/from a given number within 100-900.	2.NBT.8
<b>2</b>	Apply addition and subtraction strategies based on place value and the properties of operations and explain why these strategies work using drawings or objects. For example, $37 + 12 = 49$ because $37 + 12$ equals $30 + 7 + 10 + 2$ (place value) which equals $30 + 10 + 7 + 2$ (property of operations).	2.NBT.9
<b>3</b>	Add and subtract within 100 in word problems involving lengths using a symbol to represent the unknown number. For example, if Angela needs 30 feet of ribbon for gifts, but she only has 17 feet, equations $17 + x = 30$ and $30 - x = 17$ both represent the $x$ feet she still needs.	2.MD.5
<b>4</b>	Use a number line to represent the solution of whole number sums and differences related to length within 100 by using equally spaced points.	2.MD.6
<b>5</b>	Tell and write time using analog and digital clocks to the nearest five minutes using AM and PM.	2.MD.7
<b>6</b>	Identify, recognize, and solve word problems with dollar bills, quarters, dimes, nickels, and pennies using the \$ and ¢ symbols appropriately.	2.MD.8
<b>7</b>	Add and subtract within 100 to solve 1- or 2-step word problems with unknowns in any position.	<b>2.OA.1</b>
<b>8</b>	Add and subtract fluently within 20 using mental strategies, such as decomposing and composing numbers using the benchmark of ten.	<b>2.OA.2</b>
<b>Repeated Standards</b>		
<b>SLO #7</b> is a benchmark for <b>2.OA.1</b>	<b>Use addition and subtraction within 100 to solve one- and two- step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions.</b>	
<b>SLO #8</b> is a benchmark for <b>2.OA.2</b>	<b>Fluently add and subtract within 20 using mental strategies. By the end of Grade 2, know from memory all sums of two one-digit numbers, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.</b>	

***Bold type indicates grade level fluency requirements*** (see PARCC Model Content Frameworks) ***or possible starting points for connections to the SLOs.***

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### Selected Opportunities for Connection to Mathematical Practices

**1. Make sense of problems and persevere in solving them.**

SLO #2 Explain how (using drawings or objects) strategies based on place value or properties of operations work to solve addition and subtraction problems.

SLO #3 Analyze the relationship among numbers or quantities in addition or subtraction word problems regarding lengths in order to solve.

**2. Reason abstractly and quantitatively.**

SLO #2 Know and flexibly apply properties of operations as they relate to addition and subtraction problems.

SLO #3 Use quantitative reasoning to create a coherent representation of addition and subtraction word problems regarding length.

SLO #8 Make sense and understand quantities and their relationships when adding, subtracting, decomposing, and composing numbers within 20.

**3. Construct viable arguments and critique the reasoning of others.**

**4. Model with mathematics.**

SLO #2 Use drawings and diagrams to help explain strategies related to addition and subtraction.

SLO #3 Apply previously learned addition and subtraction skills to solve word problems involving lengths and having unknown quantities represented by symbols.

**5. Use appropriate tools strategically.**

**6. Attend to precision.**

**7. Look for and make use of structure.**

SLO #2 Look for and discern patterns relating to addition and subtraction.

**8. Look for and express regularity in repeated reasoning.**

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Code #	Common Core State Standards
<b>2.OA.1</b>	Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
<b>2.OA.2</b>	Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.
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 can be supported by drawings or objects).
2.MD.5	Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.
2.MD.6	Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram.
2.MD.7	Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
2.MD.8	Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately. <i>Example: If you have 2 dimes and 3 pennies, how many cents do you have?</i>

**Bold type indicates grade level fluency requirements.** (see PARCC Model Content Frameworks)