New Jersey Student Learning Standards for Mathematics and Student Learning Objectives

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Grade 2 – Place Value and Three Digit Addition and Subtraction Strategies – Unit 1

Rationale

The primary focus of Unit 1 is building place value understanding for three digit numbers and working with numbers within 1000. Learners extend the counting sequence mastered in grade 1 to count within 1000. Learners build place value understanding for three digit numbers, understanding that the three digits represent amounts of hundreds, tens, and ones.

Building upon grade 1 work adding within 100 using concrete models, drawings, and strategies, grade 2 learners use addition and subtraction within 100 to solve both one- and two-step word problems for a variety of situations. They use concrete models and drawings to develop conceptual understanding of addition and subtraction within 1000. The unit concludes as learners begin to explain why addition and subtraction strategies work, and pursue fluency for addition and subtraction within 20 using mental strategies.

Grade 2 – Unit 1, Module A

Standards	Student Learning Objectives We are learning to … / We are learning that …
■ **2.NBT.A.2** Count within 1000; skip-count by 5s, 10s, and 100s.	▪ count within 1000 ▪ skip count by tens ▪ skip count by fives
■ **2.NBT.A.3** Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.	▪ read numbers to 1000 using base-ten numerals ▪ write numbers to 1000 using base-ten numerals

■ **2.NBT.A.1** Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones.
   a. 100 can be thought of as a bundle of ten tens — called a "hundred."
   b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).
	▪ a three-digit number is made up of hundreds, tens, and ones
	▪ the three digits of a three-digit number represent amounts of hundreds, amounts of tens, and amounts of ones
	▪ 100 is a bundle of ten tens called a "hundred"
	▪ The numbers 100, 200, 300, 400, 500, 600, 700, 800, and 900 refer to 1, 2, 3, 4, 5, 6, 7, 8, or 9 hundreds (and 0 tens and 0 ones)

■ **2.NBT.A.2** Count within 1000; skip-count by 5s, 10s, and 100s.	▪ skip count by hundreds

Key: ■ Major Cluster   ☐ Supporting Cluster   ◎ Additional Cluster

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Standards	Student Learning Objectives We are learning to … / We are learning that …
■ **2.NBT.A.3** Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.	▪ read numbers to 1000 using expanded form ▪ write numbers to 1000 using expanded form
■ **2.NBT.A.4** Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.	▪ compare two three-digit numbers using place value understanding and record the results using the symbols >, =, <

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Grade 2 – Unit 1, Module B

Standards	Student Learning Objectives We are learning to … / We are learning that …
■ **2.OA.A.1** 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.	▪ represent a word problem with drawings and equations using a symbol for the unknown ▪ solve one and two-step addition and subtraction word problems within 20 involving situations of adding to, taking from, putting together, taking apart, and comparing
■ **2.NBT.B.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.	▪ when adding and subtracting three-digit numbers, only digits in the same place value can be added or subtracted to or from each other ▪ when adding and subtracting three-digit numbers, sometimes it is necessary to compose or decompose tens and/or hundreds ▪ use concrete models and a place value strategy to add and subtract within 1000, and relate the written strategy to the model ▪ use drawings and a place value strategy to add and subtract within 1000, and relate the written strategy to the drawing ▪ use concrete models and a strategy based on properties of operations and/or the relationship between addition and subtraction to add and subtract within 1000, and relate the written strategy to the model ▪ use drawings and a strategy based on properties of operations and/or the relationship between addition and subtraction to add and subtract within 1000, and relate the written strategy to the drawing
■ **2.NBT.B.8** Mentally add 10 or 100 to a given number $100 - 900$, and mentally subtract 10 or 100 from a given number $100 - 900$.	▪ mentally add or subtract 10 to or from any given number between 100 and 900 ▪ mentally add or subtract 100 to or from any given number between 100 and 900
■ **2.NBT.B.9** Explain why addition and subtraction strategies work, using place value and the properties of operation.	▪ explain why addition and subtraction strategies work based on place value ▪ explain why addition and subtraction strategies work based on properties of operations

Standards	Student Learning Objectives We are learning to … / We are learning that …
■ **2.OA.B.2** Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.	▪ know from memory all sums of two one-digit numbers within ten ▪ add and subtract within 20 using mental strategies, working towards accuracy and efficiency

Grade 2 – Counting, Addition and Subtraction Strategies - Unit 2

Rationale

Continuing the counting sequence of Unit 1, learners skip count by hundreds and continue to develop skills counting within 1000. They partition rectangle into rows and columns of same-size squares and skip count to find the total. Learners use repeated addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns, laying the foundation for multiplication in grade 3. They tell and write time to the nearest five minutes, building on their grade 1 work telling and writing time in hours and half-hours.

The major focus of Unit 2 is reinforcing addition and subtraction concepts in a variety of contexts. Learners are introduced to money concepts and solve word problems involving dollar bills, quarters, dimes, nickels, and pennies. They solve one- and two-step word problems, add up to four two-digit numbers, pursue fluency for addition and subtraction within 20 using mental strategies, and pursue fluency for addition and subtraction within 100 using various strategies such as properties of operations.

Grade 2 – Unit 2, Module A

Standards	Student Learning Objectives We are learning to … / We are learning that…
■ **2.NBT.A.2** Count within 1000; skip-count by 5s, 10s, and 100s.	▪ count within 1000 ▪ skip count by fives ▪ skip count by tens ▪ skip count by hundreds
◎ **2.G.A.2** Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.	▪ partition a rectangle into rows and columns of same-size squares and count to find the total number of same size squares

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Standards	Student Learning Objectives We are learning to … / We are learning that…
☐ **2.OA.C.4** Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.	▪ use repeated addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns ▪ write an equation to express the total number of objects arranged in a rectangular array as a sum of equal addends
☐ **2.OA.C.3** Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.	▪ determine whether a group of objects up to 20 is odd or even (e.g., by pairing objects, counting them by 2s) ▪ write an equation to express an even number as a sum of two equal addends
☐ **2.MD.C.7** Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.	▪ use analog and digital clocks to tell time to the nearest five minutes using a.m. and p.m.
☐ **2.MD.C.8.** Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately. *Example: If you have 2 dimes and 3 pennies, how many cents do you have?*	▪ determine the total amount of money by counting combinations of dollar bills, quarters, dimes, nickels, and pennies using the $ and ¢ symbols appropriately ▪ solve word problems involving dollar bills, quarters, dimes, nickels, and pennies using the $ and ¢ symbols appropriately

New Jersey Student Learning Standards for Mathematics and Student Learning Objectives

Grade 2 – Unit 2, Module B

Standards	Student Learning Objectives We are learning to/ We are learning that…
■ **2.OA.B.2** Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.	▪ add and subtract within 20 using mental strategies, working towards accuracy and efficiency
■ **2.NBT.B.5** Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.	▪ add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction working towards accuracy and efficiency
■ **2.NBT.B.6** Add up to four two-digit numbers using strategies based on place value and properties of operations.	▪ add up to four two-digit numbers using place value strategies and properties of operations
■ **2.OA.A.1** 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.	▪ represent a word problem using drawings and equations using a symbol for the unknown ▪ solve one and two-step addition and subtraction word problems within 100 involving situations of adding to, taking from, putting together, taking apart, and comparing

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Grade 2 – Measuring Length – Unit 3

Rationale

The major focus of Unit 3 is reinforcing addition and subtraction concepts and strategies. Learners continue to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing. They use concrete models and drawings to develop conceptual understanding of addition and subtraction within 1000 and again use repeated addition to find the total number of objects arranged in rectangular arrays to solidify the foundation for multiplication in grade 3.

Grade 1 learners measured objects by laying multiple copies of a shorter object and expressed the length of an object as a whole number of length units. In this unit, grade 2 learners measure the length of an object directly by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes. They estimate, compare, and represent lengths on the number line. The unit concludes as learners use addition and subtraction within 100 to solve word problems involving lengths.

Grade 2 – Unit 3, Module A

Standards	Student Learning Objectives We are learning to … / We are learning that …
■ **2.OA.A.1** 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.	- represent a word problem using drawings and equations using a symbol for the unknown - solve one and two-step addition and subtraction word problems within 100 involving situations of adding to, taking from, putting together, taking apart, and comparing
■ **2.NBT.B.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.	- use concrete models and a place value strategy to add and subtract within 1000, and relate the written strategy to the model - use drawings and a place value strategy to add and subtract within 1000, and relate the written strategy to the drawing - use concrete models and a strategy based on properties of operations and/or the relationship between addition and subtraction to add and subtract within 1000, and relate the written strategy to the model - use drawings and a strategy based on properties of operations and/or the relationship between addition and subtraction to add and subtract within 1000, and relate the written strategy to the drawing

Standards	Student Learning Objectives We are learning to … / We are learning that …
■ **2.NBT.A.2** Count within 1000; skip-count by 5s, 10s, and 100s.	▪ count within 1000 ▪ skip count by fives ▪ skip count by tens ▪ skip count by hundreds
☐ **2.OA.C.4** Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.	▪ use repeated addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns ▪ write an equation to express the total number of objects arranged in a rectangular array as a sum of equal addends
■ **2.NBT.B.5** Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.	▪ add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction, working towards accuracy and efficiency

Grade 2 – Unit 3, Module B

Standards	Student Learning Objectives We are learning to … / We are learning that …
■ **2.MD.A.1** Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.	▪ measure lengths of objects after selecting appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes
■ **2.MD.A.3** Estimate lengths using units of inches, feet, centimeters, and meters.	▪ estimate lengths of objects using the units of inches, feet, centimeters, or meters
■ **2.MD.A.4** Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.	▪ measure to determine how much longer one object is than the other and express the difference in length using a standard unit of length
■ **2.MD.A.2** Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.	▪ measure the length of an object twice using different units of measure ▪ describe how two different measurements of an object relate to the size of the measurement unit chosen
■ **2.MD.B.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.	▪ add and subtract within 100 to solve word problems that involve lengths of the same units ▪ use equations with a symbol for the unknown and drawings, such as drawings of rulers, to represent the problem
■ **2.MD.B.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.	▪ use equally spaced points of a number line to represent whole numbers as lengths from 0 ▪ represent whole number sums within 100 on a number line diagram ▪ represent whole number differences within 100 on a number line diagram

New Jersey Student Learning Standards for Mathematics and Student Learning Objectives

Grade 2 – Measurement Data and Data Representations - Unit 4

Rationale

Building on their grade 1 experiences partitioning circles and rectangles into two and four equal shares, grade 2 learners also partition those figures into three equal shares and recognize that equal shares of identical wholes need not have the same shape. They solidify their skills solve word problems involving money and telling time to the nearest five minutes, and revisit repeated addition in preparation for multiplication in grade 3.

In the final unit of grade 2, learners generate measurement data and represent the data in line plots. They measure lengths of several objects to the nearest whole unit, or make repeated measurements of the same object to generate data. Grade 2 learners also represent data with picture and a bar graphs, representing a data set with up to four categories. This unit concludes as learners state from memory all sums of two one-digit numbers, demonstrate fluency for addition and subtraction within 100 using strategies, and demonstrate fluency for addition and subtraction within 20 using mental strategies.

Grade 2 – Unit 4, Module A

Standards	Student Learning Objectives We are learning to … / We are learning that …
☐ **2.MD.D.9** Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.	▪ generate measurement data by measuring lengths, to the nearest whole unit, of several objects ▪ generate measurement data by measuring the same object multiple times ▪ record measurements in a line plot whose horizontal scale is in whole number units
☐ **2.MD.D.10** Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put together, take-apart, and compare problems using information presented in a bar graph.	▪ draw a picture graph to represent a data set with up to four categories ▪ draw a bar graph to represent a data set with up to four categories ▪ use information from a bar graph to solve simple put together, take-apart, and compare problems

New Jersey Student Learning Standards for Mathematics and Student Learning Objectives

Standards	Student Learning Objectives We are learning to … / We are learning that …
■ **2.MD.B.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 to represent the problem.	▪ add and subtract within 100 to solve word problems that involve lengths of the same units ▪ use equations with a symbol for the unknown and drawings, such as drawings of rulers, to represent the problem
■ **2.NBT.B.5** Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.	▪ add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction, with accuracy and efficiency
■ **2.OA.B.2** Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.	▪ add and subtract within 20 with accuracy and efficiency ▪ know from memory all sums of two one-digit numbers

Grade 2 – Unit 4, Module B

Standards	Student Learning Objectives We are learning to … / We are learning that …
■ **2.NBT.A.2** Count within 1000; skip-count by 5s, 10s, and 100s.	▪ count within 1000 ▪ skip count by fives ▪ skip count by tens ▪ skip count by hundreds
□ **2.OA.C.4** Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.	▪ use repeated addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns ▪ write an equation to express the total number of objects arranged in a rectangular array as a sum of equal addends
◎ **2.G.A.1** Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.	▪ recognize and draw shapes based on their attributes, such as a given number of angles or a given number of equal faces ▪ identify cubes, triangles, quadrilaterals, pentagons, and hexagons
◎ **2.G.A.3** Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.	▪ partition circles and rectangles into two, three, or four equal shares ▪ describe the shares using the words halves, thirds, fourths, half of, a third of, or fourth of ▪ describe the whole as two halves, three thirds, four fourths ▪ recognize that equal shares of identical wholes need not have the same shape
□ **2.MD.C.7** Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.	▪ use analog and digital clocks to tell time to the nearest five minutes using a.m. and p.m.
□ **2.MD.C.8.** Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately. *Example: If you have 2 dimes and 3 pennies, how many cents do you have?*	▪ solve word problems involving dollar bills, quarters, dimes, nickels, and pennies using the $ and ¢ symbols appropriately