

New York City Department of Education

Scope and Sequence Sample– Grade 1

2012-13 School Year

Overview

This document was created after closely examining the Common Core Learning Standards (CCLS) and the previous New York State Standards. It provides a high-level CCLS-aligned scope and sequence for Mathematics that also takes into account the differences in and transition from the New York State Standards. The scope and sequence is aligned to the Common Core and demonstrates a focus on the major work of the grade¹, which the [State has indicated](#) will be the focus of next year’s 3-8 State exams. This scope and sequence represents one way that a school may choose to organize and teach the full range of the standards before the state test. It is not based on any additional information about the changes in next year’s tests. This document contains the following components:

- **Year-long Overview:** A one-page view of the year that shows the:
 - **Unit Summary:** The number of suggested units across the year and the amount of instructional time spent on each unit. The instructional time is represented as pre-State test and post-State test.
 - **Omitted Concepts:** Concepts that are no longer taught at this grade-level according to the CCLS.
 - **Bridge Guidance:** Concepts that would have been taught in earlier grades, according to the Common Core, but were not part of the New York State Standards. They should be considered and woven into units during transition years since the concepts were not previously addressed/addressed fully in the New York State Standards. We ask that you consider the needs of your students when deciding if it is necessary to teach these concepts.
- **High-level Unit Overviews:** Overviews of each unit that include the:
 - **Unit Description:** A narrative description of the concepts the unit is intended to cover and the amount of instructional time suggested.
 - **Standards:** The group of related standards that should be taught within the unit. The standards within units are **not** intentionally sequenced. Schools should use the high-level unit overviews and compare them to current curricula to teach a unit that fully represents the standards addressed.

How to Use:

To use this document, teacher teams could:

- Review the year-long and unit overviews to assess whether the scope and sequence makes sense for their school.
- Use the high-level unit overviews and resources available at the school and forthcoming from the State to teach a sequence of instruction that fully addresses the standards represented.

¹ For a listing of content emphases by cluster, refer to <http://engageny.org/resource/math-content-emphases>. For additional guidance—including key advances by grade, opportunities for in-depth focus, connections between content and practice standards, etc.—refer to http://www.parcconline.org/sites/parcc/files/PARCC%20MCF%20for%20Mathematics_Fall%202011%20Release.pdf. With questions or feedback on this document, please email commoncorefellows@schools.nyc.gov.

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Grade 1 Year-Long Overview:

This table shows an overview of all units that should be taught across the year and the recommended instructional time for each unit¹.

Grade 1: Suggested Distribution of Units in Instructional Days	Time	# of weeks
Unit 1: Fluency with Addition and Subtraction of Numbers to 10 with Word Problems to 20	28%	10 weeks
Unit 2: Place Value, Comparison, Addition and Subtraction of Numbers to 20	15%	5 weeks
Unit 3: Ordering and Expressing Length Measurements as Numbers	11%	4 weeks
Unit 4: Place Value, Comparison, Addition and Subtraction of Numbers to 40	22%	8 weeks
Unit 5: Identify, Compose, and Partition Shapes	9%	4 weeks
Unit 6: Place Value, Comparison, Addition and Subtraction of Numbers to 100	15%	5 weeks

Omitted Concepts:

- Explore standard units.
- Use combinations of coins to make money amounts up to 25 cents.
- Display data in simple picto- and bar graphs.
- Use Venn diagrams.
- Identify symmetry (students now develop the background for initial understanding in grades 1 & 2; mastery now in grades 4)
- Skip Counting by 10's, by 5's and by 2's. (Now in grades K for 10's and Grade 2)
- Ordinal terms; First to twentieth. (New ceiling of "tenth" in Grade K)
- Determine and discuss patterns in arithmetic.

Bridge Concepts

- Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group.
- Name, analyze, compare, sort, and build shapes.

¹ Unit overviews and suggested instructional time are based on *Common Core Curriculum Maps in Mathematics: Overview of Kindergarten-Grade 4 Units* developed by Common Core, Inc.

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Unit 1: Fluency with Addition, Subtraction of Numbers to 10 with Word Problems to 20 – (10 Weeks)

DESCRIPTION: Students will develop an understanding of addition and subtraction and make connections between counting and addition and subtraction. This understanding will help them develop strategies for addition and subtraction within 20. The Mathematical Practices should be evident throughout instruction and connected to the content addressed in this unit. Students should engage in mathematical tasks that provide an opportunity to connect content and practices.

Standards

The standards listed below are **not** intentionally sequenced and should **not** simply be taught consecutively. Strong units weave these standards together in a thoughtful and coherent way. Schools and teacher teams can use this document to compare their current curriculum to and choose high leverage moments to enhance instruction.

1.OA.7 Understand the meaning of the equal sign, & determine if equations involving addition & subtraction are true or false. For example, which of the following equations are true & which are false? $6 = 6$, $7 = 8 - 1$, $5 + 2 = 2 + 5$, $4 + 1 = 5 + 2$.

1.OA.5 Relate counting to addition & subtraction (e.g., by counting on 2 to add 2).

1.OA.3 Apply properties of operations as strategies to add & subtract. *Examples: If $8 + 3 = 11$ is known, the $3 + 8 = 11$ is also known.* (Commutative property of addition.) *To add $2 + 6 + 4$, the second two numbers can be added to make a ten, so $2 + 6 + 4 = 2 + 10 = 12$.*² (Associative property of addition.)

1.OA.4 Understand subtraction as an unknown-addend problem. For example subtract $10 - 8$ by finding the number that makes 10 when added to 8.

1.OA.6 Add & subtract within 20, demonstrating fluency for addition & subtraction within 10. Use strategies such as counting on: *making ten* (e.g. $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$): *decomposing a number leading to a ten* (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$): *using the relationship between addition & subtraction* (e.g., *knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$*); & *creating equivalent but easier or known sums* (e.g., *adding $6 + 7$ by creating the known equivalent $6 + 6 = 12 + 1 = 13$*).³

1.OA.8 Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations $8 + ? = 11$, $5 = ?$, $6 + 6 = ?$.⁴

1.OA.1 Use addition & subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart & comparing, with unknowns in all positions, e.g., by using objects, drawings & equations with a symbol for the unknown number to represent the problem.

1.OA.2 Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20 e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

Bridge Guidance:

Standards

K.CC.6 Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching & counting strategies.

² 1.OA.3 The italicized portion of this standard is taught primarily in Unit 2.

³ 1.OA.6 The italicized portion of this standard is taught primarily in Unit 2.

⁴ 1.OA.8 The italicized portion of this standard is taught primarily in Unit 2.

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Unit 2: Place Value, Comparison, Addition and Subtraction of Numbers to 20 - (5 Weeks)

DESCRIPTION: Students will develop an understanding of whole number relationships and place value, including grouping in tens and ones. They will develop, discuss and use efficient, accurate, and methods they can generalize to add with 100. The Mathematical Practices should be evident throughout instruction and connected to the content addressed in this unit. Students should engage in mathematical tasks that provide an opportunity to connect content and practices.

Standards

The standards listed below are **not** intentionally sequenced and should **not** simply be taught consecutively. Strong units weave these standards together in a thoughtful and coherent way. Schools and teacher teams can use this document to compare their current curriculum to and choose high leverage moments to enhance instruction.

1.NBT.2 Understand that the two digits of a two-digit number represent amounts of tens & ones. Understand the following as special cases:

- 10 can be thought of as a bundle of ten ones – called a ten.
- The numbers from 11 to 19 are composed of a ten & one, two, three, four, five, six, seven, eight or nine ones.
- The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight or nine tens (and 0 ones).

1.OA.3 Apply properties of operations as strategies to add & subtract. Examples: If $8 + 3 = 11$ is known, the $3 + 8 = 11$ is also known. (Commutative property of addition.) To add $2 + 6 + 4$, the second two numbers can be added to make a ten, so $2 + 6 + 4 = 2 + 10 = 12$. (Associative property of addition.)

1.OA.6 Add & subtract within 20, demonstrating fluency for addition & subtraction within 10. Use strategies such as counting on: making ten (e.g. $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$): decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$): using the relationship between addition & subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$): & creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 = 12 + 1 = 13$).

1.OA.8 Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations $8 + ? = 11$, $5 = ?$, $6 + 6 = ?$.

1.NBT.1 Count to 120, starting at any number less than 120. In this range, read & write numerals & represent a number of objects with a written numeral.

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Unit 3: Ordering and Expressing Length Measurements as Numbers - (4 Weeks)

DESCRIPTION: Students develop an understanding of the meaning and processes of measurement with a focus on iterating and the transitivity principle. The Mathematical Practices should be evident throughout instruction and connected to the content addressed in this unit. Students should engage in mathematical tasks that provide an opportunity to connect content and practices.

Standards

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1.MD.2 Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end: understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.

1.MD.1 Order three objects by length: compare the lengths of two objects indirectly by using a third object.

1.MD. 4 Organize, represent & interpret data with up to three categories: ask & answer questions about the total number.

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Unit 4: Place Value, Comparison, Addition and Subtraction of Numbers to 40 – (8 Weeks)

DESCRIPTION: Students will further develop, discuss and use efficient, accurate, and methods they can generalize to add with 100 and subtract multiples of 10. The Mathematical Practices should be evident throughout instruction and connected to the content addressed in this unit. Students should engage in mathematical tasks that provide an opportunity to connect content and practices.

Standards

The standards listed below are **not** intentionally sequenced and should **not** simply be taught consecutively. Strong units weave these standards together in a thoughtful and coherent way. Schools and teacher teams can use this document to compare their current curriculum to and choose high leverage moments to enhance instruction.

1.NBT.2 Understand that the two digits of a two-digit number represent amounts of tens & ones. Understand the following as special cases:

- a. 10 can be thought of as a bundle of ten ones – called a ten.
- b. The numbers from 11 to 19 are composed of a ten & one, two, three, four, five, six, seven, eight or nine ones. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight or nine tens (and 0 ones).

1.NBT.3 Compare two two-digit numbers based on meanings of the tens & ones digits, recording the results of comparisons with the symbols $>$, $=$, & $<$.⁵

1.NBT.5 Given a two digit number 100 or less, mentally find 10 more or 10 less than the number, without having to count: explain the reasoning used.

1.NBT.6 Subtract multiples of 10 in the range 10-100 from multiples of 10 in the range 10-100 (positive or zero differences) using concrete models or drawings & strategies based on place value, properties of operations, &/or the relationship between addition & subtraction: relate the strategy to a written method & explain the reasoning used.⁶

1.NBT. 4 Add within 100, including adding a two digit number & a one digit number, & adding a two-digit number & a multiple of 10, using concrete models or drawings & strategies based on place value, properties of operations, &/or the relationship between addition & subtraction: relate the strategy to a written method & explain the reasoning used. Understand that in adding two digit numbers, one adds tens & tens, ones & ones: & sometimes it is necessary to compose a ten.⁷

⁵ 1.NBT.3 Comparison of numbers is focused primarily on numbers to 40. In Unit 6, the set of numbers to 100 is the focus.

⁶ 1.NBT.3 In Unit 4, subtraction & addition of numbers is focused on numbers to 40. In Unit 6, the set of numbers to 100 is the focus.

⁷ 1.NBT.4 In Unit 4, subtraction & addition of numbers is focused on numbers to 40. In Unit 6, the set of numbers to 100 is the focus.

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Unit 5: Identify, Compose, and Partition Shapes – (4 Weeks)

DESCRIPTION: Students compose and decompose plane or solid figures and build understanding of part-whole relationships as well as the properties of the original and composite shape. The Mathematical Practices should be evident throughout instruction and connected to the content addressed in this unit. Students should engage in mathematical tasks that provide an opportunity to connect content and practices.

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1.G.1 Distinguish between defining & non-defining attributes (e.g., triangles are closed & three-sided) versus non-defining attributes (e.g., color, orientation, overall size): build & draw shapes to possess defining attributes.

1.G.2 Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, & quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, & right circular cylinders) to create a composite shape, & compose new shapes from the composite shape.

1.G.3 Partition circles & rectangles into two & four equal shares, describe the shares using the words halves, fourths, & quarters, & use the phrases half of, fourth of, & quarter of. Describe the whole as two of or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.

1.MD.3 Tell & write time in hours & half-hours using analog & digital clocks.

*Recognize and identify coins, their names, and their value.

Bridge Guidance:

Standards

K.G.2 Correctly name shapes regardless of their orientations or overall size.

K.G.4 Analyze & compare two & three dimensional shapes, in different sizes & orientations, using informal language to describe their similarities, differences, parts (e.g., having sides of equal length).

K.G.6 Compose simple shapes to form larger shapes. For example, "Can you join these two triangles with full sides touching to make a rectangle?"

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Unit 6: Place Value, Comparison, Addition and Subtraction of Numbers to 100 - (5 Weeks)

DESCRIPTION: Students will compare whole numbers to develop understanding of and solve problems involving their relative sizes. Through activities that build number sense, they understand the order of the counting numbers and their relative magnitude. Students will also continue to develop, discuss and use efficient, accurate, and methods they can generalize to add with 100 and subtract multiples of 10. The Mathematical Practices should be evident throughout instruction and connected to the content addressed in this unit. Students should engage in mathematical tasks that provide an opportunity to connect content and practices.

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The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (& 0 ones).

1.NBT.3 Compare two two-digit numbers based on meanings of the tens & ones digits, recording the results of comparisons with the symbols $>$, $=$, & $<$.

1.NBT.5 Given a two digit number 100 or less, mentally find 10 more or 10 less than the number, without having to count: explain the reasoning used.

1.NBT.6 Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-100 (positive or zero differences) using concrete models or drawings & strategies based on place value, properties of operations, &/or the relationship between addition & subtraction: relate the strategy to a written method & explain the reasoning used.

1.NBT.4 Add within 100, including adding a two digit number & a one digit number, & adding a two-digit number & a multiple of 10, using concrete models or drawings & strategies based on place value, properties of operations, &/or the relationship between addition & subtraction: relate the strategy to a written method & explain the reasoning used. Understand that in adding two digit numbers, one adds tens & tens, ones & ones: & sometimes it is necessary to compose a ten.