

New York City Department of Education

Scope and Sequence Sample— Grade K

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 and updated after examining NYS' recently released [scope and sequence supports](#) and testing program [guidance](#). 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 and incorporate the State's [pre and post-test standards](#) guidance. 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.
 - **Concepts that Should be Omitted:** 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. Please note: Bridge concepts are intended for instructional consideration when crafting a coherent sequence of instruction during the transitional years only and are not a part of SED's draft Test Program Guidance.
- **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.

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.
- Review the resources available by standard in each high-level unit overview.
- Use the high-level unit overviews and resources available 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/PARCCMCFMathematics_August%202012rev2_FINAL.pdf.
With questions or feedback on this document, please email commoncorefellows@schools.nyc.gov.

Scope and Sequence Sample: Overview School Year 2012-13 – Grade Kindergarten

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Kindergarten 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.

Kindergarten: Suggested Distribution of Units in Instructional Days	Time	# of weeks
Unit 1: Classify and Count Numbers to 10	25%	9 weeks
Unit 2: Identify and Describe Shapes	7%	2 weeks
Unit 3: Comparison with Length, Weight and Numbers to 10	25%	9 weeks
Unit 4: Number Pairs, Addition and Subtraction of Numbers to 10	20%	8 weeks
Unit 5: Numbers 10-20, Counting to 100 by 1 and 10	16%	6 weeks
Unit 6: Analyze, Compare, Create and Compose Shapes	7%	2 weeks

Concepts that should be omitted:

- Gather data, help make and analyze simple graphs. (Now in Grade 2)
- Explore symmetry (students now develop the background for initial understanding in Grades 1 & 2; mastery now in Grade 4)
- Recognize, describe, extend and create patterns. (Now in Grade PK)

¹ Unit overviews and suggested instructional time are based on *Common Core Curriculum Maps in Mathematics A Story of Units Pre-K- 5* developed by Common Core, Inc.

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Unit 1: Classify and Count Numbers to 10 – (9 Weeks)

DESCRIPTION: Students will solidify the meaning of numbers to 10 with a focus on graphing, relationships to 5 and growth and shrinking patterns to 10 of “1 more” and “1 less.” 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.

Know number names and the count sequence.

K.CC. 1: Count to 100 by ones and by tens.

K.CC. 2: Count forward beginning from a given number within the known sequence (instead of having to begin at 1).

K.CC. 3: Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).

Count to tell the number of objects.

K.CC. 4: Understand the relationship between numbers and quantities, connect counting to cardinality.

- When counting objects, say the number names in the standard order pairing each object with one & only one number name & each number name with one & only one object.
- Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.
- Understand that each successive number name refers to a quantity that is one larger.
- Develop understanding of ordinal numbers (first through tenth) to describe the relative position and magnitude of whole numbers.

K.CC. 5: Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1-20, count out that many objects.

Classify objects and count the number of objects in each category.

K.MD.3: Classify objects into given categories: count the numbers of objects in each category & sort the categories by count.

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Unit 2: Identify and Describe Shapes – (2 Weeks)

DESCRIPTION: Students will learn to identify and describe shapes while practicing their fluency with numbers to 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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Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders and spheres).

K.G.1: Describe objects in the environment using names of shapes, & describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, & next to.

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

K.G.3: Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").

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Unit 3: Comparison with Length, Weight and Numbers to 10 – (9 Weeks)

DESCRIPTION: Students will use different units to measure length, weight, and capacity, and explore the relationship of those units. Comparison begins with developing the meaning of the words “than”: “taller than”, “shorter than”, “longer than”, etc. 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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Compare numbers.

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.

K.CC.7: Compare two numbers between 1 and 10 presented as written numerals.

Describe and compare measurable attributes.

K.MD.1: Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.

K.MD.2: Directly compare two objects with a measurable attribute in common. To see which object has “more of”/“less of” the attribute & describe the difference. For example, directly compare the heights of two children & describe one child as taller/shorter.

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Unit 4: Number Pairs, Addition and Subtraction of Numbers to 10 – (8 Weeks)

DESCRIPTION: Students will compare numbers which will lead to looking at the numbers *that make up* a number (“3 is less than 7. 3 and 4 make 7.”). This, in turn, leads naturally to discussions of addition and subtraction. 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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Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

K.OA.1: Represent addition & subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.

K.OA.2: Solve addition & subtraction word problems, & add & subtract within 10, e.g., by using objects or drawings to represent the problem.

K.OA.3: Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, & record each decomposition by a drawing or equation (e.g. $5 = 2 + 3$ & $5 = 4 + 1$).

K.OA.4: For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, & record the answer with a drawing or equation.

K.OA.5: Fluently add & subtract within 5.

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Unit 5: Numbers 10-20, Counting to 100 by 1 and by 10 – (6 Weeks)

DESCRIPTION: Students will learn that the numbers 10-20 can be parsed as “10 together with a number from 1-10.” 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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Know number names and the count sequence.

K.CC. 1: Count to 100 by ones and by tens.

K.CC. 2: Count forward beginning from a given number within the known sequence (instead of having to begin at 1).

K.CC. 3: Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).

Count to tell the number of objects.

K.G.4: Analyze & compare two & three dimensional shapes, in different sizes & orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/corners”) and other attributes (e.g., having sides of equal length).

K.G.5: Model shapes in the world by building shapes from components (e.g., sticks & clay balls) & drawing shapes.

Work with numbers 11

K.NBT.1: Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings and record each composition or decomposition by a drawing or equation (such as $18 = 10 + 8$); understand that these numbers are composed of ten ones and one, two three, four, five, six, seven, eight or nine ones.

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Unit 6: Analyze Compare, Create, and Compose Shapes – (2 Weeks)

DESCRIPTION: Students will begin to explore the concepts in area. Exploring the idea that shapes can be composed of smaller shapes. 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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Count to tell the number of things.

K.CC.4: Understand the relationship between numbers and quantities: connect counting to cardinality.

d. Develop understanding of ordinal numbers (first through tenth) to describe the relative position and magnitude of whole numbers.

Analyze, compare, create and compose shapes.

K.G.4: Analyze and compare two and three dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/“corners”) and other attributes (e.g., having sides of equal length).

K.G.5: Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.

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?”*