


# Guidance Document - *GO Math!* Grade K

## Part Four: Chapter-Level Guidance for *GO Math!* (Grade K)

Grade K / Chapter 1: Represent, Count, and Write Numbers 0 to 5			
Lesson	Action	Details for the Action	Rationale
1.0.1	Add	Introduce routine to practice rote counting to 100 that will continue throughout the year: <a href="#">Illustrative Mathematics, Choral Counting</a>  Additional Resource: <a href="#">YouTube, I Can Count to 100</a>	K.CC.A.1 requires students to count to 100 by ones. “Students need experiences practicing and learning to count so that they can learn to say numbers before they are able to use the numbers to count objects or to tell the number of objects” ( <a href="#">CC/OA Progression, p. 4</a> ).
1.0.2	Add	More practice with rote counting up to 20: <a href="#">LearnZillion, Unit 1, Lesson 10</a>	
1.0.3	Add	Practice counting up from a number other than 1: <a href="#">LearnZillion, Unit 13, Lesson 4</a>	
1.1 Model and Count 1 and 2	Modify	Spend more time on counting objects as opposed to counting out a given number of objects (Share and Show).	K.CC.B.4a requires students to focus on counting objects, not writing numerals. Standard asks students to say number names, not write them.
1.2 Count and Write 1 and 2	As is		


1.3 Model and Count 3 and 4	Modify	Spend more time on counting objects (Share and Show directions: questions 1 and 2) as opposed to counting out a given number of objects (questions 3, 4, 5).	K.CC.B.4a requires students to focus on counting objects, not writing numerals. Standard asks students to say number names, not write them.
1.4 Count and Write 3 and 4	As is		
1.5 Model and Count to 5	Modify	Spend more time on counting objects (Share and Show directions: questions 1 and 2) as opposed to counting out a given number of objects (questions 3, 4, 5).	KCC.B.4 requires students to connect counting and cardinality. “Students can count out a given number of objects, which is more difficult than just counting that many objects, because counting must be fluent enough for the student to have enough attention to remember the number of objects that is being counted out” ( <a href="#">CC/OA Progression, p. 4</a> ).
1.6 Count and Write to 5	As is		
1.7 Ways to Make 5	As is		
1.8 Count and Order to 5	Delete		This lesson is more connected to K.MD.A.1-2 than the CC domain. These standards will be addressed in Chapter 11.
1.9 Understand 0	Delete		K.CC.A.3 requires students to represent a count of no objects and students are working with the concept of zero in this lesson. However, the situation types are beyond those that kindergartners are responsible for. See Table 1: Addition and subtraction situations ( <a href="#">CC/OA Progression, p. 7</a> ).
1.9.1	Add	Lesson about the meaning of and write the numeral 0: <a href="#">EngageNY, Module 1, Lesson 12</a>  Additional activity: <a href="#">Montessori Primary Guide, Concept of Zero</a>	K.CC.A.3 requires students to 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). Need a lesson to address the meaning of 0 referenced in the parenthetical of K.CC.A.3

1.10 Identify and Write 0	As is		
Chapter 1 Test		Guidance on chapter tests is currently under development and will be made available Fall 2016.	

 <b>Chapter 1 Rule of Thumb</b>	<b>Rationale</b>
There are no chapter-specific Rules of Thumb. Be sure to still apply grade- and program-level Rules of Thumb from Part Two and Part Three of this document.	


## Grade K / Chapter 2: Compare Numbers to 5

Lesson	Action	Details for the Action	Rationale
2.1 Same Number	As is		
2.2 Greater Than	As is		
2.3 Less Than	As is		
2.3.1	Add	Practice with identifying equal groups: <a href="#">LearnZillion, Unit 9, Lesson 7</a>	K.CC.C.6 requires students to identify groups with equal quantities. “Students first learn to match the objects in the two groups to see if there are any extra and then count the objects in each group and use their knowledge of the count sequence to decide which is greater than the other. Students learn that even if one group looks as if it has more objects matching or counting may reveal a different result” ( <a href="#">CC/OA Progression, p. 5</a> ).
2.3.2	Add	Practice with comparing groups of items: <a href="#">LearnZillion, Unit 9, Lesson 4</a>	
2.4 Compare by Matching Sets to 5	As is		
2.5 Compare by Counting Sets to 5	As is		
Chapter 2 Test		Guidance on chapter tests is currently under development and will be made available Fall 2016.	

 <b>Chapter 2 Rule of Thumb</b>	<b>Rationale</b>
Include experiences matching and comparing objects before moving on to comparisons with numerals. Students should orally identify which set is greater than, less than, or the same using the objects to make the comparison, as needed.	K.CC.C cluster requires students to compare numbers. “Students first learn to match the objects in the two groups to see if there are any extra and then count the objects in each group and use their knowledge of the count sequence to decide which is greater than the other. Students learn that even if one group looks as if it has more objects matching or counting may reveal a different result” ( <a href="#">CC/OA Progression, p. 5</a> ).

## Grade K / Chapter 3: Represent, Count, and Write Numbers 6 to 9

Lesson	Action	Details for the Action	Rationale
3.1 Model and Count 6	As is		
3.2 Count and Write to 6	As is		
3.3 Model and Count 7	As is		
3.4 Count and Write to 7	As is		
3.5 Model and Count 8	As is		
3.6 Count and Write to 8	As is		
3.7 Model and Count 9	As is		
3.8 Count and Write to 9	As is		
3.9 Numbers to 9	Delete		K.CC.C.6 requires students to 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 and counting strategies). Many of the problems go beyond the addition situation types required by K.CC.C.6. See Table 1: Addition and subtraction situations ( <a href="#">CC/OA Progression, p. 7</a> ).
Chapter 3 Test		Guidance on chapter tests is currently under development and will be made available Fall 2016.	


 <b>Chapter 3 Rule of Thumb</b>	<b>Rationale</b>
<p>The focus of this chapter is on Counting and Cardinality, therefore teacher questions and class discussion should focus on building students' skill with conceptual subitizing (recognizing that a collection of objects is composed of two subcollections and quickly combining their cardinalities to find the cardinality of the collection). Questions or activities about addition should be saved for later chapters.</p>	<p>K.CC.A and K.CC.B, the foci for this chapter, require time to be spent on developing counting concepts. KOA.A is about addition (e.g., count 3, count 4, combine for 7), and comes up in later chapters.</p>

## Grade K / Chapter 4: Represent and Compare Numbers to 10

Lesson	Action	Details for the Action	Rationale
4.1 Mount and Count 10	As is		
4.2 Count and Write to 10	As is		
4.3 Ways to Make 10	Delete		This chapter focuses on counting to ten; work with K.OA.A.4 is based more on fluency and will come in Chapter 5 when students have more experience with addition.
4.4 Count and Order to 10	Delete		The focus of this lesson on writing numerals is not aligned to K.CC.A.2 which only requires oral rote counting.
4.5 Compare by Matching Sets to 10	As is		
4.5.1	Add	Lesson about matching up objects in two different groups: <a href="#">EngageNY, Module 3, Lesson 17</a>	K.CC.6 requires students to identify the number of objects in groups and compare groups. “ Students also need to understand that in order to compare objects they need to organize the objects so that even if one group looks like it has more objects (spread out), matching or counting may reveal a different result” ( <a href="#">CC/OA Progression, p. 5</a> ).
4.5.2	Add	Lesson about use comparison language: <a href="#">EngageNY, Module 3, Lesson 18</a>	
4.5.3	Add	Practice using comparison language: <a href="#">EngageNY, Module 3, Lesson 19</a>	
4.6 Compare by Counting Sets to 10	As is		
4.7 Compare Two Numbers	As is		




Chapter 4 Test		Guidance on chapter tests is currently under development and will be made available Fall 2016.	
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 <b>Chapter 4 Rule of Thumb</b>	<b>Rationale</b>
<p>There are no chapter-specific Rules of Thumb. Be sure to still apply grade- and program-level Rules of Thumb from Part Two and Part Three of this document.</p>	

## Grade K / Chapter 5: Addition

Lesson	Action	Details for the Action	Rationale
5.0	Add	<p>Lesson about the meaning of addition (combining groups): <a href="#">LearnZillion, Unit 4, Lesson 5</a></p> <p>Additional resources:</p> <ul style="list-style-type: none"> <li>• <a href="#">EngageNY, Module 4, Lesson 17: Fluency practice: How Many?</a></li> <li>• <a href="#">EngageNY, Module 4, Lesson 37: Concept development</a></li> </ul>	K.OA.A.1 requires students to model addition with objects, which does not happen enough in this chapter.
5.1 Addition: Add To	As is		
5.1.1	Add	<p>Lesson about modeling composition and decomposition of numbers to 5 using actions, objects, and drawings: <a href="#">EngageNY, Module 4, Lesson 1</a></p>	K.OA.A.1 requires students to act out the problem. In the current lessons, they are only given pictures to represent addition problems.
5.2 Addition: Put Together	As is		
5.3 Act Out Addition Problems	Modify	<p>Don't use the workbook pages; use the problem orally and have students represent the problem or act them out and then write the numbers (eliminating the tracing aspect). If students are presented with the pictures, they may just count instead of making sense of the situations as addition.</p>	K.OA.A.2 requires students to solve addition problems.
5.4 Model and Draw Addition Problems	As is		


5.5 Write Addition Sentences for 10	Delete	Move this lesson to after lesson 5.11.	K.OA.4 requires students to find a complement of a number to make ten. Moving this lesson later allows for connections between K.OA.A.4 and K.OA.A.3
5.6 Write Addition Sentences	Delete		All of the work that students are doing is with problem types that are not aligned with K.OA.A. See Table 1: Addition and subtraction situations ( <a href="#">CC/OA Progression, p. 7</a> ).
5.7 Write More Addition Sentences	Delete		
5.8 Number Pairs to 5	As is		
5.9 Number Pairs for 6 and 7	As is		
5.10 Number Pairs for 8	As is		
5.11 Number Pairs for 9	As is		
5.11.1 Write Addition Sentences for 10	Add	Use Lesson 5.5	K.OA.4 requires students to find a complement of a number to make ten. Moving this lesson allows for connections between K.OA.A.4 and K.OA.A.3
5.12 Number Pairs for 10	As is		
Chapter 5 Test		Guidance on chapter tests is currently under development and will be made available Fall 2016.	

 Chapter 5 Rules of Thumb	Rationale
Minimize the emphasis on writing equations.	1.OA.D.7 requires students to understand the meaning of the equal sign; in Kindergarten, emphasis should be on understanding the meaning of the operations.
Use all Kindergarten representations listed in Standards for addition and subtraction.	K.OA.A.1 requires students to use objects, fingers, mental images, drawings, sounds, acting out situations, verbal explanations, expressions or equations ( <a href="#">CC/OA Progression, p. 8</a> )

## Grade K / Chapter 6: Subtraction

Lesson	Action	Details for the Action	Rationale
6.0	Add	Lesson about using objects and drawings to find how many are left: <a href="#">EngageNY, Module 4, Lesson 19</a>  Additional resource: <a href="#">EngageNY, Module 4, Lesson 23</a>	K.OA.A.1 requires students to model subtraction with objects, which does not happen enough in this chapter.
6.1 Subtraction: Take From	As is		
6.1.1	Add	Practice using objects and drawings to understand subtraction as take-away: <a href="#">LearnZillion, Unit 6, Lesson 2</a>	K.OA.A.1 requires students to model subtraction with objects, which does not happen enough in this chapter.
6.1.2	Add	Practice using objects and drawings to understand subtraction as take-away: <a href="#">LearnZillion, Unit 6, Lesson 5</a>	
6.2 Subtraction: Take Apart	As is		
6.3 Act Out Subtraction Problems	Modify	Don't use the workbook pages. Read the problem orally and have students represent the problem or act it out. If students are presented with the pictures, they may count instead of thinking of the situations as addition.	K.OA.A.2 requires students to solve subtraction problems.
6.4 Model and Draw Subtraction Problems	As is		

6.5 Write Subtraction Sentences	Delete		The standard listed is K.OA.A.5, the fluency standard. However, the work in this lesson is with problem types that are not aligned with K.OA.A.2, See Table 1: Addition and subtraction situations ( <a href="#">CC/OA Progression, p. 7</a> ).
6.6 Write More Subtraction Sentences	Delete		Standard listed is K.OA.A.2; however, problems are not aligned with K.OA.A.2 (change or start unknown). See Table 1: Addition and subtraction situations ( <a href="#">CC/OA Progression, p. 7</a> ).
6.7 Addition and Subtraction	As is		
Chapter 6 Test		Guidance on chapter tests is currently under development and will be made available Fall 2016.	

 Chapter 6 Rules of Thumb	Rationale
Minimize the emphasis on writing equations.	1.OA.D.7 requires students to understand the meaning of the equal sign; in Kindergarten, emphasis should be on understanding the meaning of the operations.
Attend to all Kindergarten representations for addition and subtraction.	K.OA.A.1, requires students to use objects, fingers, mental images, drawings, sounds, acting out situations, verbal explanations, expressions or equations ( <a href="#">CC/OA Progression, p. 8</a> ).

## Grade K / Chapter 7: Represent, Count, and Write 11 to 19

Lesson	Action	Details for the Action	Rationale
7.1 Model and Count 11 and 12	As is		
7.2 Count and Write 11 and 12	As is		
7.3 Model and Count 13 and 14	As is		
7.4 Count and Write 13 and 14	As is		
7.5 Model, Count, and Write 15	As is		
7.6 Use Numbers to 15	Delete		Aligns to 2.OA.A.1 which requires students to do multi-step word problems.
7.7 Model and Count 16 and 17	As is		
7.8 Count and Write 16 and 17	As is		
7.9 Model and Count 18 and 19	As is		
7.10 Count and Write 18 and 19	As is		
Chapter 7 Test		Guidance on chapter tests is currently under development and will be made available Fall 2016.	


 Chapter 7 Rules of Thumb	Rationale

Minimize the emphasis on writing equations.	1.OA.D.7 requires students to understand the meaning of the equal sign; in Kindergarten, emphasis should be on understanding the meaning of the operations.
Use multiple representations that illustrate teen numbers as 10 ones and some more ones.	K.NBT.A.1 suggests students use objects and drawings in addition to equations to compose and decompose numbers. “Math drawings are simple drawings that make essential mathematical features and relationships salient while suppressing details that are not relevant to the mathematical ideas” ( <a href="#">NBT Progression, p.5</a> ).




## Grade K / Chapter 8: Represent, Count, and Write 20 and Beyond

Lesson	Action	Details for the Action	Rationale
8.0.1	Add	Lesson about students work with collections up to 20 arranged in different ways: <a href="#">EngageNY: Module 5, Lesson 13</a>	K.CC.B.5 requires students to answer “how many?” questions about as many as 20 things arranged in a line, array, or circle, or as many as 10 things in a scattered configuration.
8.0.2	Add	Practice with collections up to 20 arranged in different ways: <a href="#">EngageNY: Module 5, Lesson 14</a>	
8.1 Model and Count 20	As is		
8.2 Count and Write to 20	As is		
8.3 Count and Order to 20	Delete		K.CC.A.2 only requires oral rote counting; this lesson goes beyond the scope of the standard.
8.4 Compare Numbers to 20	As is		
8.5 Count to 50 by Ones	Delete		K.CC.A.1 and K.CC.A.3 only require students to recognize numbers up to 20.
8.6 Count to 100 by Ones	Delete		
8.7 Count to 100 by Tens	Delete		
8.8 Count by Tens	Delete		K.CC.A.1 is about counting orally by 10’s; however, the representations here show 10 as a unit which is beyond the scope of the standard.
Chapter 8 Test		Guidance on chapter tests is currently under development and will be made available Fall 2016.	

 <b>Chapter 8 Rule of Thumb</b>	<b>Rationale</b>
There are no chapter-specific Rules of Thumb. Be sure to still apply grade- and program-level Rules of Thumb from Part Two and Part Three of this document.	


## Grade K / Chapter 9: Identify and Describe Two-Dimensional Shapes

Lesson	Action	Details for the Action	Rationale
9.1 Identify and Name Circles 9.2 Describe Circles	Modify	Condense these two lessons.	K.G.A is an Additional cluster and K.G.B is a Supporting cluster. Condensing lessons in this chapter will allow for more time on Major Work of the grade.
9.3 Identify and Name Squares 9.4 Describe Squares	Modify	Condense these two lessons.	
9.5 Identify and Name Triangles 9.6 Describe Triangles	Modify	Condense these two lessons.	
9.7 Identify and Name Rectangles 9.8 Describe Rectangles	Modify	Condense these two lessons.	
9.9 Identify and Name Hexagons 9.10 Describe Hexagons	Modify	Condense these two lessons.	
9.11 Compare Two Dimensional Shapes	As is		
9.12 Draw to Join Shapes	As is		
Chapter 9 Test		Guidance on chapter tests is currently under development and will be made available Fall 2016.	

 Chapter 9 Rules of Thumb	Rationale
Do not focus lessons on reading the shape names.	K.G.A.2 calls for correctly naming the shapes, not reading print names of shapes.
Provide examples that are mathematically accurate.	MP6 requires students to attend to the precise language of mathematics. 3D shapes are used in this chapter to describe 2D shapes. Real life objects with curved edges are used to describe polygons.


## Grade K / Chapter 10: Identify and Describe Three-Dimensional Shapes

Lesson	Action	Details for the Action	Rationale
10.1 Three-Dimensional Shapes	As is		
10.2 Identify, Name, and Describe Spheres	As is		
10.3 Identify, Name, and Describe Cubes	As is		
10.4 Identify, Name, and Describe Cylinders	As is		
10.5 Identify, Name, and Describe Cones	As is		
10.6 Two- and Three-Dimensional Shapes	As is		
10.7 Model Shapes	As is		
10.8 Above and Below 10.9 Beside and Next To 10.10 In Front Of and Behind	Modify	Condense these three lessons.	K.G.A.1 is part of an Additional cluster and will leave more time for Major Work of the grade
Chapter 10 Test		Guidance on chapter tests is currently under development and will be made available Fall 2016.	

 Chapter 10 Rules of Thumb	Rationale
Provide examples that are mathematically accurate.	MP6 requires students to attend to the precise language of mathematics. Real life objects are used to describe and represent shapes inaccurately (e.g., ice cream cone for cone, ball of yarn for sphere).
Do not focus lessons on reading the shape names.	K.G.A.2 requires students to correctly name shapes regardless of their orientations or overall size.

## Grade K / Chapter 11: Measurement

Lesson	Action	Details for the Action	Rationale
11.1 Compare Lengths 11.2 Compare Heights	Modify	Condense these two lessons.	K.MD.A does not require students to distinguish between length and height
11.3 Direct Comparison	As is		
11.4 Compare Weights	As is		
11.5 Length, Height, Weight	As is		
Chapter 11 Test		Guidance on chapter tests is currently under development and will be made available Fall 2016.	


 Chapter 11 Rule of Thumb	Rationale
There are no chapter-specific Rules of Thumb. Be sure to still apply grade- and program-level Rules of Thumb from Part Two and Part Three of this document.	

## Grade K / Chapter 12: Classify and Sort Data

Lesson	Action	Details for the Action	Rationale
12.0.1	Add	Lesson about sorting and counting shapes: <a href="#">LearnZillion, Unit 3, Lesson 5</a>	K.MD.B.3 requires students to count the number of objects in each category and sort categories by count.  Students in Kindergarten classify objects into categories, initially specified by the teacher and perhaps eventually elicited from students. For example, in a science context, the teacher might ask students in the class to sort pictures of various organisms into two piles: organisms with wings and those without wings. Students can then count the number of specimens in each pile. K.CC.5 ( <a href="#">CC/OA Progression, p. 4</a> )
12.0.2	Add	Practice sorting and counting shapes: <a href="#">LearnZillion, Unit 11, Lesson 1</a>  Additional Resource: <a href="#">Illustrative Mathematics, Sort and Count I</a>	
12.0.3	Add	Practice sorting and counting shapes: <a href="#">LearnZillion, Unit 11, Lesson 2</a>  Additional Resource: <a href="#">Illustrative Mathematics, Sort and Count II</a>	
12.1 Classify and Count by Color	Delete		K.MD.B.3 requires students to classify objects into given categories, count the numbers of objects in each category, and sort the categories by count. In this lesson, the activities focus on counting the number of categories instead of counting how many are in each category.
12.2 Classify and Count by Shape	Delete		
12.3 Classify and Count by Size	Delete		
12.4 Make a Concrete Graph	Delete		More aligned to 1.MD.C.4
12.5 Read a Graph	Delete		K.MD.B.3 requires students to sort and classify objects but not graph data.



Chapter 12 Test		Guidance on chapter tests is currently under development and will be made available Fall 2016.	
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 <b>Chapter 12 Rule of Thumb</b>	<b>Rationale</b>
There are no chapter-specific Rules of Thumb. Be sure to still apply grade- and program-level Rules of Thumb from Part Two and Part Three of this document.	