

Georgia Department of Education

KINDERGARTEN MATHEMATICS

UNIT 2 STANDARDS

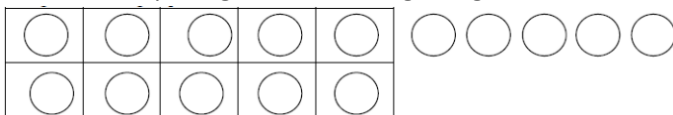
Dear Parents,

We want to make sure that you have an understanding of the mathematics your child will be learning this year. Below you will find the standards we will be learning in Unit Two. Each standard is in bold print and underlined and below it is an explanation with student examples. Your child is not learning math the way we did when we were in school, so hopefully this will assist you when you help your child at home. Please let your teacher know if you have any questions.



MGSEK.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 (e.g., $18 = 10 + 8$); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.

This standard is the first time that students move beyond the number 10 with representations, such as objects (manipulatives) or drawings. The spirit of this standard is that students separate out a set of 11-19 objects into a group of ten objects with leftovers. This ability is a pre-cursor to later grades when they need to understand the complex concept that a group of 10 objects is also one ten (unitizing). Ample experiences with ten frames will help solidify this concept. Research states that students are not ready to unitize until the end of first grade. Therefore, this work in Kindergarten lays the foundation of composing tens and recognizing leftovers.



MGSEK.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).

This standard addresses the writing of numbers and using the written numerals (0-20) to describe the amount of a set of objects. Due to varied development of fine motor and visual development, a reversal of numerals is anticipated for a majority of the students. While reversals should be pointed out to students, the emphasis is on the use of numerals to represent quantities rather than the correct handwriting formation of the actual numeral itself.

In addition, the standard asks for students to represent a set of objects with a written numeral. The number of objects being recorded should not be greater than 20. Students can record the quantity of a set by selecting a number card or tile (numeral recognition) or writing the numeral. Students can also create a set of objects based on the numeral presented.

MGSEK.CC.4a Understand the relationship between numbers and quantities; connect counting to cardinality.

This standard asks students to count a set of objects and see sets and numerals in relationship to one another, rather than as isolated numbers or sets. This standard should first be addressed using numbers 1-5 with teachers building to the numbers 1-10 later in the year. The expectation is that students are comfortable with these skills with the numbers 1-10 by the end of Kindergarten.

- a. **When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.**

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This standard reflects the ideas that students implement correct counting procedures by pointing to one object at a time using one counting word for every object, while keeping track of objects that have and have not been counted. This is the foundation of counting.

MGSEK.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.

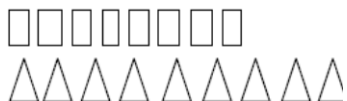
This standard addresses various counting strategies. First, students move objects and count them as they move them. The second strategy is that students line up the objects and count them. Third, students have a scattered arrangement and they touch each object as they count. Lastly, students have a scattered arrangement and count them by visually scanning without touching them. Since the scattered arrangements are the most challenging for students, CCGPS.K.CC.5 calls for students to only count 10 objects in a scattered arrangement, and count up to 20 objects in a line, rectangular array, or circle. Out of these 3 representations, a line is the easiest type of arrangement to count.

MGSEK.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 and counting strategies.

This standard expects mastery of up to ten objects. Students can use matching strategies (Student 1), counting strategies or equal shares (Student 3) to determine whether one group is greater than, less than, or equal to the number of objects in another group (Student 2).

Student 1

I lined up one square and one triangle. Since there is one extra triangle, there are more triangles than squares.



Student 2

I counted the squares and I got 8. Then I counted the triangles and got 9. Since 9 is bigger than 8, there are more triangles than squares.

Student 3

I put them in a pile. I then took away objects. Every time I took a square, I also took a triangle. When I had taken almost all of the shapes away, there was still a triangle left. That means there are more triangles than squares.

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

This standard calls for students to apply their understanding of numerals 1-10 to compare one from another. Thus, looking at the numerals 8 and 10, a student must be able to recognize that the numeral 10 represents a larger amount than the numeral 8. Students should begin this standard by having ample experiences with sets of objects (CCGPS.K.CC.3 and CCGPS.K.CC.6) before completing this standard with just numerals. Based on early childhood research, students should not be expected to be comfortable with this skill until the end of kindergarten.

MGSEK.MD.3 Classify objects into given categories; count the numbers of objects in each category and sort the categories by count. (Limit category counts to be less than or equal to 10.)

This standard asks students to identify similarities and differences between objects (e.g., size, color, shape) and use the identified attributes to sort a collection of objects. Once the objects are sorted, the student counts the amount in each set. Once each set is counted, then the student is asked to sort (or group) each of the sets by the amount in each set.

For example, when given a collection of buttons, the student separates the buttons into different piles based on color (all the blue buttons are in one pile, all the orange buttons are in a different pile, etc.). Then the student counts the number of buttons in each pile: blue (5), green (4), orange (3), purple (4). Finally, the student organizes the groups by the quantity in each group (Orange buttons (3), Green buttons next (4), Purple buttons with the green buttons because purple also had (4), Blue buttons last (5).

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This objective helps to build a foundation for data collection in future grades. In later grades, students will transfer these skills to creating and analyzing various graphical representations.