

KINDERGARTEN ENHANCED MATHEMATICS

Unit 3

Dear Parents,

We want to make sure that you understand the mathematics your child will be learning this year. Below you will find the standards we will be learning in Unit Three. 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.CC.1 Count to 100 by ones and by tens. Unit 1 – rote counting (1- 60 and continue counting by 10's).

This standard calls for students to rote count by starting at one and counting to 60. When students count by tens, they are only expected to master counting on the decade (0, 10, 20, 30, 40 ...). This is a repeating standard and numbers will increase as the year progresses.

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.


- Count to answer “how many?” questions about as many as 20 things arranged in a variety of ways (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.
- Identify and be able to count pennies within 20. (Use pennies as manipulatives in multiple mathematical contexts.)

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 MGSEK.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. Students will also be introduced to the penny and they should begin using the penny as a manipulative for one in various counting situations.

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.

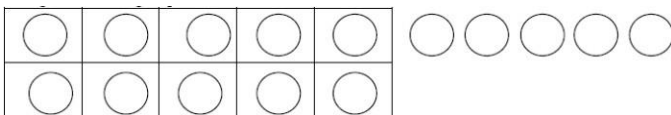
Student 3
I put them in a pile. I then took away objects. Every time I took a square, I also took a triangle. When I had taken almost all of the shapes away, there was still a triangle left. That means there are more triangles than squares.

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 (MGSEK.CC.3 and MGSEK.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.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.



MGSE1.NBT.7 Identify dimes and understand ten pennies can be thought of as a dime. (Use dimes as manipulatives in multiple mathematical contexts.)

This is a repeating standard and will appear in units 3, 4, and 5. In unit 3, students focus on identifying a dime. In later units, students will begin understanding how to unitize and the concept of ten pennies being equivalent to a dime. Students will also be asked to decompose various amounts of pennies into a dime and some pennies.

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).

Students will continue work with this standard in later units.