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| **Gwinnett County Public Schools Mathematics: Kindergarten – Instructional Calendar 2013-2014** | | | | |
| **Standards for Mathematical Practice #s 1- 8 taught throughout all units.** | | | | |
| 1st Quarter | 2nd Quarter | 3rd Quarter | | 4th Quarter |
| GCPS Unit 1 (GA Unit 3) | GCPS Unit 2 (GA Unit 1) | GCPS Unit 3 (GA Unit 2) | GCPS Unit 4 (GA Units 4, 6) | GCPS Unit 5 (GA Unit 5) |
| **Sophisticated Shapes** | **Counting with Friends** | **Building Numbers** | **Investigating Addition and Subtraction** | **Measuring and Analyzing Data** |
| 24. G.1 describe objects in the environment using names of shapes and describe the relative positions of these objects using terms such as above, below, beside, in front of, to the left of, to the right of, behind, and next to  25. G.2 name shapes correctly regardless of their orientations or overall size  26. G.3 classify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”)  27. 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)  28. G.5 Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.  29. G.6 compose simple shapes to form larger shapes e.g., "Can you join these two triangles with full sides touching to make a rectangle?"  18.OA.PRE. identify, create, extend, and transfer patterns from one representation to another using calendars, actions, objects, and geometric shapes  22. MD.3 classify objects into given categories; count the numbers of objects in each category and sort the categories by count | 1. CC.1 count to 100 by ones and tens  2. CC.2 count forward by ones, beginning from a given number within the known sequence (instead of having to begin at 1)  3. CC.3 write numerals from 0 to 20 and represent a number of objects with a written numeral 0 - 20 with 0 representing a count of no objects  4. CC.4 demonstrate the relationship between numbers and quantities to 20; connect counting to cardinality  6. CC.4\_b. demonstrate that the last stated number 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  7. CC.4\_c. demonstrate that each successive number name refers to a quantity that is one larger  12. CC.PRE. identify coins by name and value: pennies, nickels, dimes, quarters, and dollar bills  22. MD.3 classify objects into given categories; count the numbers of objects in each category and sort the categories by count | 19. 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  5.CC. 4\_a. count objects by stating 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  8. 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  10. CC.6 compare two sets of objects and identify which set is equal to, more than, or less than the other using matching and counting strategies  11. CC.7 compare two numbers between 1 and 10 presented as written numerals  22. MD.3 classify objects into given categories; count the numbers of objects in each category and sort the categories by count | 13. OA.1 represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps) acting out situations, verbal explanations, expressions, or equations  14. OA.2 solve addition and subtraction word problems, and add and subtract within 10 (e.g., by using objects or drawings to represent the problem)  15. OA.3 decompose numbers less than or equal to 10 into pairs in more than one way (e.g., by using objects or drawing), and record each decomposition by a drawing or equations (e.g., 5 = 2 + 3 and 5 = 4 + 1)  16. OA.4 find the number that makes 10 when added to the given number, for any number from 1 to 9 (e.g., by using objects or drawings, and record the answer with a drawing or equation)  17. OA.5 add and subtract within 5 fluently  22. MD.3 classify objects into given categories; count the numbers of objects in each category and sort the categories by count | 20. MD.1 describe several measureable attributes of an object, such as length or weight  21. MD.2 directly compare two objects on the basis of length (longer/shorter), capacity (more/less), height (taller/shorter), and weight (heavier/lighter) and describe the difference, e.g., directly compare the heights of two children and describe one child as taller/shorter  22. MD.3 classify objects into given categories; count the numbers of objects in each category and sort the categories by count  **Unit 6: Preview—Base Ten Numbers** |

CC—Counting and Cardinality, G—Geometry, MD—Measurement and Data, NBT—Number and Operations in Base Ten, OA—Operations and Algebraic Thinking

**Standards for Mathematical Practice – Kindergarten Specific**

*Mathematical Practices are listed with each grade’s mathematical content standards to reflect the need to connect the mathematical practices to mathematical content in instruction.* The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. These practices rest on important “processes and proficiencies” with longstanding importance in mathematics education. The first of these are the NCTM process standards of problem solving, reasoning and proof, communication, representation, and connections. The second are the strands of mathematical proficiency specified in the National Research Council’s report *Adding It Up*: adaptive reasoning, strategic competence, conceptual understanding (comprehension of mathematical concepts, operations and relations), procedural fluency (skill in carrying out procedures flexibly, accurately, efficiently and appropriately), and productive disposition (habitual inclination to see mathematics as sensible, useful, and worthwhile, coupled with a belief in diligence and one’s own efficacy). ***Students are expected to:***

**1. Make sense of problems and persevere in solving them.**

In Kindergarten, students begin to build the understanding that doing mathematics involves solving problems and discussing how they solved them. Students explain to themselves the meaning of a problem and look for ways to solve it. Younger students may use concrete objects or pictures to help them conceptualize and solve problems. They may check their thinking by asking themselves, “Does this make sense?” or they may try another strategy.

**2. Reason abstractly and quantitatively.**

Younger students begin to recognize that a number represents a specific quantity. Then, they connect the quantity to written symbols. Quantitative reasoning entails creating a representation of a problem while attending to the meanings of the quantities.

**3. Construct viable arguments and critique the reasoning of others.**

Younger students construct arguments using concrete referents, such as objects, pictures, drawings, and actions. They also begin to develop their mathematical communication skills as they participate in mathematical discussions involving questions like “How did you get that?” and “Why is that true?” They explain their thinking to others and respond to others’ thinking.

**4. Model with mathematics.**

In early grades, students experiment with representing problem situations in multiple ways including numbers, words (mathematical language), drawing pictures, using objects, acting out, making a chart or list, creating equations, etc. Students need opportunities to connect the different representations and explain the connections. They should be able to use all of these representations as needed.

**5. Use appropriate tools strategically.**

Younger students begin to consider the available tools (including estimation) when solving a mathematical problem and decide when certain tools might be helpful. For instance, kindergarteners may decide that it might be advantageous to use linking cubes to represent two quantities and then compare the two representations side-by-side.

**6. Attend to precision.**

As kindergarteners begin to develop their mathematical communication skills, they try to use clear and precise language in their discussions with others and in their own reasoning.

**7. Look for and make use of structure.**

Younger students begin to discern a pattern or structure. For instance, students recognize the pattern that exists in the teen numbers; every teen number is written with a 1 (representing one ten) and ends with the digit that is first stated. They also recognize that 3 + 2 = 5 and 2 + 3 = 5.

**8. Look for and express regularity in repeated reasoning.**

In the early grades, students notice repetitive actions in counting and computation, etc. For example, they may notice that the next number in a counting sequence is one more. When counting by tens, the next number in the sequence is “ten more” (or one more group of ten). In addition, students continually check their work by asking themselves, “Does this make sense?”