

# Gwinnett County Public Schools Mathematics: Grade 1 – At A Glance 2015-2016

## Standards for Mathematical Practice

- 1 Make sense of problems and persevere in solving them.
- 2 Reason abstractly and quantitatively.
- 3 Construct viable arguments and critique the reasoning of others.

- 4 Model with mathematics.
- 5 Use appropriate tools strategically.
- 6 Attend to precision.

- 7 Look for and make use of structure.
- 8 Look for and express regularity in repeated reasoning.

## 1<sup>st</sup> 9 Weeks: Units 1-2

### Unit 1: Base Ten

#### Extend the counting sequence

- **9. NBT.1** count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral
- **18. NBT.7** exchange equivalent quantities of coins by making fair trades involving combinations of pennies, nickels, dimes, and quarters and count out a combination needed to purchase items less than a dollar

#### Represent and interpret data

- **22. MD.4** organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another

### Unit 2: Operations and Algebraic Thinking

#### Represent and solve problems involving addition and subtraction.

- **1. OA.1** use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing with unknowns in all positions (e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem)
- **2. OA.2** solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20 (e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem)
- **3. OA.3** explore and apply properties of operations as strategies to add and subtract (e.g., If  $8 + 3 = 11$  is known, then  $3 + 8 = 11$  is also known (Commutative property of addition). To add  $2 + 6 + 4$ , the second two numbers can be added to make a ten, so  $2 + 6 + 4 = 2 + 10 = 12$  (Associative property of addition))
- **4. OA.4** model and explain subtraction as an unknown-addend problem (e.g., subtract  $10 - 8$  by finding the number that makes 10 when added to 8)

#### Add and subtract within 20

- **5. OA.5** relate counting to addition and subtraction (e.g., by counting on 2 to add 2)
- **6. OA.6** add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g.,  $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$ ); decomposing a number leading to a ten (e.g.,  $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$ ); using the relationship between addition and subtraction (e.g., adding  $6 + 7$  by creating the known equivalent  $6 + 6 + 1 = 12 + 1 = 13$ )

#### Work with addition and subtraction equations.

- **7. OA.7** model and explain the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. (e.g., which of the following equations are true and which are false?  $6 = 6$ ,  $7 = 8 - 1$ ,  $5 + 2 = 2 + 5$ ,  $4 + 1 = 5 + 2$ )
- **8. OA.8** determine the unknown whole number in an addition or subtraction equation relating to three whole numbers by using symbols (e.g., determine the unknown number that makes the equation true in each of the equations  $8 + ? = 11$ ;  $5 = \square - 3$ ;  $6 + 6 = \Delta$ )

#### Represent and Interpret Data

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## 2<sup>nd</sup> 9 Weeks: Unit 3

### Unit 3: Measurement and Data

#### Measure links indirectly and by iterating units

- **19. MD.1** order the length of three objects; compare the lengths of two objects by using direct comparison or a third object
- **20. MD.2** express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps.

#### Tell and Write Time

- **21. MD.3** tell and write time to the nearest hour and half-hour using analog and digital clocks

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### 3<sup>rd</sup> 9 weeks: Unit 4

#### **Unit 4: Number and Operations in Base Ten**

##### **Understand place value.**

- **10. NBT.2** model and explain that a two-digit number represents amounts of tens and ones
- **11. NBT.2\_a.** explain that 10 can be thought of as a bundle of ten ones called a “ten”
- **12. NBT.2\_b.** model the numbers 11 to 19 showing they are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones
- **13. NBT.2\_c.** explain that the numbers 10, 20, 30, 40, 50, 60, 70, 80, and 90 refer to one, two, three, four, five, six, seven, eight, or nine tens and 0 ones
- **14. NBT.3** compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols  $>$ ,  $=$ , and  $<$

##### **Use place value understanding and properties of operations to add and subtract.**

- **15. NBT.4** add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten
- **16. NBT.5** using mental math strategies identify one more than, one less than, 10 more than, or 10 less than a given two-digit number explaining strategy used
- **17. NBT.6** subtract multiples of 10 in the range 10 - 90 from multiples of 10 in the range 10–90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used (e.g.,  $70 - 30$ ;  $30 - 1$ ;  $60 - 60$ )

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### 4<sup>th</sup> 9 weeks: Unit 5

#### **Unit 5: Shapes and Fractions**

##### **Reason with shapes and their attributes**

- **23. G.1** distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes
- **24. G.2** compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape and to compose new shapes from the composite shape. This is important for the future development of spatial relations which later connects to developing understanding of area, volume and fractions
- **25. G.3** partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares

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