Lancaster School District

Grade 3 Math YAAG
2016-2017

The YAAG is your curriculum guide for the 2016-2017 school year. It provides guidance to teach the math Common Core State Standards by focusing on the identified critical areas. You will find reference to the newly adopted textbooks. However, please note that the YAAG is our curriculum guide and the textbook is one tool you will be using to move students into mastery of the standards. **Multiplication and division are new concepts in this grade and meeting fluency is a major portion of this year. Reaching fluency will take most of the year.**

The **Critical Areas for Grade 3** as identified in the Common Core State Standards for Mathematics, California are the following:
In Grade 3, instructional time should focus on four critical areas: (1) developing understanding of multiplication and division and strategies for multiplication and division within 100; (2) developing understanding of fractions, especially unit fractions (fractions with numerator 1); (3) developing understanding of the structure of rectangular arrays and of area; and (4) describing and analyzing two-dimensional shapes.

The Major clusters compose 70% of the SBACC assessment. These clusters include:

Operations and Algebra
- (3.OA.1–4)Represent and solve problems involving multiplication and division.
- (3.OA.5–6) Understand properties of multiplication and the relationship between multiplication and division.
- (3.OA.7)Multiply and divide within 100.
- (3.OA.8–9)Solve problems involving the four operations, and identify and explain patterns in arithmetic.

Number and Operations—Fractions 3.NF
- (3.NF.1–3)Develop understanding of fractions as numbers.

Measurement and Data 3.MD
- (3.OA.7)Multiply and divide within 100.
- (3.OA.8–9)Solve problems involving the four operations, and identify and explain patterns in arithmetic.
- (3.MD.1–2)Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.
- (3.MD.5–7)Geometric measurement: understand concepts of area and relate area to multiplication and to addition.

To help you build a deeper understanding of the standards, each YAAG includes hyperlinks to the following resources:
- CA Math CCSS
- CA Grade-level Math Framework
- Math Practices
- Math Practice Posters (in student friendly language with visuals, K-6)

Teachers are asked to approach their instruction in the following manner:
- **First**- Build meaning of the standards by unwrapping them and examining the CA framework documents.
- **Second-** Look to your current textbook and online resources to identify the alignment of learning experiences and practices that students will need to build concepts, fluency and problem solving.
- **Third-** Use outside/online resources for areas that the textbook needs additional support.

2016-2017 MATH Year-at-a-Glance
Grade 3

[MATH CCSS_CA](#)   **[CA Math Framework](#)**   **[Kansas Flipbooks](#)**   **[CCSS Progressions](#)**   **[Math Practices](#)**   **[MP Posters](#)**

Chapter	Chpt. 4	Chpt. 5	Chpt. 6	Chpt. 7	Chpt.8	Chpt. 9	Chapter 10	Chapter 13	Chapter 12	Chapter 11	Chapter 14	Chapter 1, 2, and 3
Chapter Length	3 weeks	3 weeks	2-3 weeks	2-3 weeks	2 weeks	2-3 weeks	4 weeks	2 weeks	2 weeks	2 weeks	2 weeks	7 weeks
Dates	August 8 – December 16 (18 weeks)						January 9-February 3	February 6 – March 17			April 3 – April 14	April 17 – June 2
Chapter Focus	Under-standing Multiplication	Under-standing Division	Multiplication and Division Patterns	Multiplication and Division	Apply Multiplication and Division	Properties and Equations	Fractions	Perimeter and Area	Represent and Interpret Data	Measure-ment	Geome-try	Place Value Addition and Subtraction
Think Smart for SBAC	Number talks with a focus on addition and subtraction		Use the Countdown to SBAC (20 weeks) *Use as part of your daily routine (one problem per day; 5-10 minutes instruction) **We are using this to frontload place value, addition, and subtraction									
Chapter Notes and Supplements	**OMIT Chapter 8, Lessons 8 and 9 (beyond the standard)** • LearnZillion.com o equal groups o patterns o strategies o relationship o problem-solving (Lessons 5-10) • Georgia Unit 2 and Unit 3 • Engage NY Unit 1 and Engage NY Unit 3 • Materials such as graph paper, square tiles, white boards						**ADD Chapter 10, Lesson 7** • LearnZillion.com o Understanding o Equivalent o Comparing • Georgia Unit 5 • Engage NY Unit 5	• LearnZillion.com o Measurement o Perimeter (Lessons 11-15; embeds addition) o area ▪ Conceptual ▪ Problem-solving o Measurement with fractions o Area and perimeter (Lessons 1-4; lesson 3 embeds subtraction) o Multiplication/division with measurement • Georgia Unit 6 and Unit 3 • Engage NY Module 4 and Engage NY Module 6 and Engage NY Module 7			Georgia Unit 4 Engage NY Module 7 • Learn Zillion.com Attributes (Lessons 5-10)	• LearnZillion.com o Strategies (lessons 1-10) o Problem-solving (lessons 1-3 • Georgia Unit 1 • Engage NY Module 2
Routines Fluency	• Telling time and finding elapsed time		• Telling time and finding elapsed time				• Telling time and finding elapsed	• Telling time and finding elapsed time			• Number Talks	• Number Talks (Sherry Parrish)

	• Skip Counting by 2s, 5s, 10s forward and backwards • Number Talks (Sherry Parrish)	• Skip Counting by 3s, 4s,6s forward and backwards • Number Talks (Sherry Parrish) • Fluency of Facts for 2s, 5s, 10s for x and ÷	time • Skip Counting by 7s, 8s, 9s forward and backwards • Number Talks (Sherry Parrish) • Fluency of Facts for 0s, 1s, 3s, 4s for x and ÷	• Skip Counting forward and backwards • Number Talks (Sherry Parrish) • Fluency of Facts for 6s and 7s for x and ÷	(Sherry Parrish) • Fluency of Facts for 8s and 9s for x and ÷	• Fluency of Facts ALL for x and ÷
Overall Resources	• McGraw Hill Online Resources	• Math Their Way Activities	• Number Talks (Sherry Parrish)	• Number Talks		• CommonCore Sheets.com
Intervention	Refer to MY Math RTI materials online through the publisher website or the District website or on the N drive. Diagnostic Placement Test RTI Grade Level Guide					
Math CCSS **Bold standards indicate areas of intense focus.**	3.**OA.1** 3.**OA.2** 3.**OA.4** 3.**OA.5** 3.**OA.7** 3.**OA.8** 3.NBT.3	3.**OA.3** 3.**OA.6** 3.**OA.9**	3.G.2 3.**NF.1** 3.**NF.2a-b** 3.**NF.3a-d**	3.**OA.3** 3.**MD.1** 3.**MD.2** 3.MD.3 3.MD.4 3.**MD.5.a** 3.**MD.6** 3.**MD.7.a-d** 3.MD.8	3.G.1	3.**OA.8** 3.**OA.9** 3.NBT.1 3.NBT.2

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Grade 3 Standards	Q1	Q2	Q3	Q4
3.OA.1 Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each.	x	x		
3.OA.2 Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.	x	x		
3.OA.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.	x	x	x	
3.OA.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers.	x	x		
3.OA.5 Apply properties of operations as strategies to multiply and divide.	x	x		
3.OA.6 Understand division as an unknown-factor problem. For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.	x	x		
3.OA.7 Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. **By the end of Grade 3, know from memory all products of two one-digit numbers**.	x	x	x	x
3.OA.8 Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	x	x		x
3.OA.9 Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.	x	x		x
3.NBT.1 Use place value understanding to round whole numbers to the nearest 10 or 100.				x
3.NBT.2 Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	x	x	x	x
3.NBT.3 Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations.	x	x		
3.NF.1 Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b.			x	
3.NF.2a Understand a fraction as a number on the number line; represent fractions on a number line diagram. a) Represent a fraction 1/b on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size 1/b and that the endpoint of the part based at 0 locates the number 1/b on the number line.			x	
3.NF.2b Understand a fraction as a number on the number line; represent fractions on a number line diagram. b)Represent a fraction a/b on a number line diagram by marking off a lengths 1/b from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.			x	
3.NF.3.a Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. a) Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.			x	
3.NF.3.b Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. b) Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3). Explain why the fractions are equivalent, e.g., by using a visual fraction model.			x	
3.NF.3.c Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. c) Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.			x	
3.NF.3.d Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. d) Compare two fractions with			x	

the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model			
3.MD.1 Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.		x	
3.MD.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.		x	
3.MD.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs.		x	
3.MD.4 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.		x	
3.MD.5.a Recognize area as an attribute of plane figures and understand concepts of area measurement. a) A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area.		x	
3.MD.5.b Recognize area as an attribute of plane figures and understand concepts of area measurement. b) A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.		x	
3.MD.6 Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).		x	
3.MD.7.a Relate area to the operations of multiplication and addition. a) Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.		x	
3.MD.7.b Relate area to the operations of multiplication and addition. b) Multiply side lengths to find areas of rectangles with whole- number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.		x	
3.MD.7.c Relate area to the operations of multiplication and addition. c) Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and b + c is the sum of a × b and a × c. Use area models to represent the distributive property in mathematical reasoning.		x	
3.MD.7.d Relate area to the operations of multiplication and addition. d) Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.		x	
3.MD.8 Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters		x	
3.G.1 Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.			x
3.G.2 Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole.		x	