



Curriculum
Map

Mathematics

Grade 3

Sacramento City Unified School District

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Grade 3 Year-at-a-Glance			
	Month	Unit	Content Standards
District Benchmark 1 *Alignment TBD	September	Unit #1 Represent and Understand Multiplication and Division	3.OA.1 3.OA.2 3.OA.3 3.OA.4
	September October	Unit #2 Place Value and Problem Solving with Units of Measure	3.NBT.1 3.NBT.2 3.MD.1 3.MD.2 3.OA.8
District Benchmark 2 *Alignment TBD	November/ December	Unit #3 Problem Solving Using Multiplication and Division	3.OA.3 3.OA.4 3.OA.5 3.OA.7 3.OA.8 3.OA.9 3.NBT.3 3.OA.1 3.OA.2 3.OA.6
	January/February	Unit #4 Exploring Multiplication with Area	3.MD.5 3.MD.6 3.MD.7
District Benchmark 3 *Alignment TBD	March/April	Unit #5 Developing Understanding of Fractions	3.NF.1 3.NF.2 3.NF.3 3.G.2 3.MD.4
CAASPP (Smarter Balanced Summative Test)	May	Unit #6 Representing and Interpreting Data	3.MD.3 3.MD.4
	May/June	Unit #7 Problem Solving Involving Perimeter and Area	3.G.1 3.MD.4 3.MD.8 3.OA.8

Unit #1: Represent and Understand Multiplication and Division

(Approx. # Days)

Content Standards: **3.OA.1, 3.OA.2, 3.OA.3, 3.OA.4**

In this unit, students will develop understanding of, interpret, represent, and solve problems involving multiplication and division.

Math Common Core Content Standards:

Domain: Operations and Algebraic Thinking 3.OA

Represent and solve problems involving multiplication and division

1. Interpret products of whole numbers, e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each. *For example, describe a context in which a total number of objects can be expressed as 5×7 .*
2. Interpret whole-number quotients of whole numbers, e.g., interpret $56 \div 8$ 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 $56 \div 8$.*
3. Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawing and equations with a symbol for the unknown number to represent the problem.
4. Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations $8 \times ? = 48$, $5 = \square \div 3$, $6 \times 6 = ?$.*

Standards for Mathematical Practice:

SMP 1 Make sense of problems and persevere in solving them
 SMP 2 Reason abstractly and quantitatively
 SMP 3 Construct viable argument and critique the reasoning of others
 SMP 6 Attend to precision
 SMP 7 Look for and make use of structure

SEL Competencies:

Self-awareness, Self-management, Social awareness, Relationship skills,
 Responsible decision making

ELD Standards to Support Unit

Part I: Interacting in Meaningful Ways

A. Collaborative

1. Exchanging information and ideas with others through oral collaborative conversations on a range of social and academic topics
2. Interacting with others in written English in various communicative forms (print, communicative technology, and multimedia)
3. Offering and supporting opinions and negotiating with others in communicative exchanges

- 4. Adapting language choices to various contexts (based on task, purpose, audience, and text type)
 - B. Interpretive
 - 5. Listening actively to spoken English in a range of social and academic contexts
 - 6. Reading closely literary and informational texts and viewing multimedia to determine how meaning is conveyed explicitly and implicitly through language
 - 7. Evaluating how well writers and speakers use language to support ideas and opinions with details or reasons depending on modality, text type, purpose, audience, topic, and content area
 - 8. Analyzing how writers and speakers use vocabulary and other language resources for specific purposes (to explain, persuade, entertain, etc.) depending on modality, text type, purpose, audience, topic, and content area
 - C. Productive
 - 9. Expressing information and ideas in formal oral presentations on academic topics
 - 11. Supporting own opinions and evaluating others' opinions in speaking and writing
 - 12. Selecting and applying varied and precise vocabulary and language structures to effectively convey ideas
- Part II. Learning About How English Works
- A. Structuring Cohesive Texts
 - 1. Understanding text structure
 - B. Expanding and Enriching Ideas
 - 5. Modifying to add details
 - C. Connecting and Condensing Ideas
 - 6. Connecting ideas
 - 7. Condensing ideas

Unit #1: Represent and Understand Multiplication and Division

Essential Questions	Suggested Assessments for Learning	Sequence of Learning Outcomes	Strategies for Teaching and Learning	Differentiation e.g., EL/SpEd/GATE	Resources
<ul style="list-style-type: none"> • How can I relate what I know about skip counting to multiply? • How can the same array model represent multiplication and division? • How can I use the array model to explain multiplication and division? • How can multiplication be represented? • What patterns can be used to find certain multiplication facts? • How can you use known facts to find unknown facts? • How are addition and multiplication related? • How can division be represented? • How are subtraction and division related? • How can I use what I know 	<p>Assessments/Tasks aligned to learning experiences:</p> <p>www.engageny.org/resource/grade-3-mathematics-module-1</p> <p>“Fish Tanks” http://www.illustrativemathematics.org/illustrations/1531</p> <p>“Markers in Boxes”</p>	<p>Students will be able to...</p> <p>1. Recognize multiplication as finding the total number of objects in a certain number of equal-sized groups. Provide students context (story problems) as they learn equal groupings.</p> <p>2. Interpret factors as the size of the group or the number of groups. Show with models “a number of groups of a certain number of object (or size)” when the language of “groups of” is presented with various terms (for example, “piles of,” “stacks</p>	<p>The standard defines multiplication of whole numbers $a \times b$ as finding the total number of objects in a groups of b objects. Use the terms “number of objects in each group” ($3 \times \underline{\quad} = 18$ and $18 \div 3 = \underline{\quad}$) or “number of groups” ($\underline{\quad} \times 6 = 18$ and $18 \div 6 = \underline{\quad}$) with students.</p> <p>Number bond can be used as a visual representation of this skip counting strategy. http://www.engageny.org/resource/numbers-through-10-number-towers-number-paths-number-bond</p> <p>Draw pictures to represent equal groups</p> <p>May use a variety of models (tile squares, counters, linking cubes, beans, etc.) for students to manipulate equal groups</p> <p>Use context to help students determine the factors.</p> <p>Use number lines to show equal groups</p>	<p>“Have a strong rationale for differentiating based on student readiness, interest, and learning profile,” (Tomlinson 32).</p> <p><i>Use of math journals for differentiation and formative assessment (use link below)</i> https://www.teachingchannel.org/videos/math-journals</p> <p>Flexible grouping:</p> <ul style="list-style-type: none"> • Content • Interest • Project/product • Level (Heterogeneous/Homogeneous) <p>Tiered:</p> <ul style="list-style-type: none"> • Independent Management Plan (Must Do/May Do) 	<p>CCSS Support:</p> <ul style="list-style-type: none"> • CA Mathematics Framework <ul style="list-style-type: none"> ○ “Grade 3”, p. 7-15 http://www.cd.ca.gov/ci/math/documents/aug2013grade-three.pdf ○ “Instructional Strategies” http://www.cd.ca.gov/ci/math/documents/aug2013instructionalstrat.pdf ○ “Supporting High Quality Common Core Instruction” http://www.cd.ca.gov/ci/math/documents/aug2013supportinghccm.pdf • Kansas Association of Teachers of Mathematics

Unit #1: Represent and Understand Multiplication and Division

Essential Questions	Suggested Assessments for Learning	Sequence of Learning Outcomes	Strategies for Teaching and Learning	Differentiation e.g., EL/SpEd/GATE	Resources
about subtraction, equal sharing, and forming equal groups to solve division problems?	http://www.illustrativemathematics.org/illustrations/1540	of," "rows of," "cups of," "teams of," etc.).		<ul style="list-style-type: none"> • Grouping <ul style="list-style-type: none"> ○ Content ○ Rigor w/in the concept ○ Project-based learning ○ Homework ○ Grouping ○ Formative Assessment <p>Anchor Activities:</p> <ul style="list-style-type: none"> • Content-related • Tasks for early finishers <ul style="list-style-type: none"> ○ Game ○ Investigation ○ Partner Activity ○ Stations <p>Depth and Complexity Prompts/Icons:</p> <ul style="list-style-type: none"> • Depth <ul style="list-style-type: none"> ○ Language of the Discipline ○ Patterns ○ Unanswered Questions ○ Rules 	<p>(KATM) 3rd Flipbook, pp. 4-11 http://katm.org/wp/wp-content/uploads/flipbooks/3flipbookedited_2.pdf</p> <ul style="list-style-type: none"> • <i>Progression for the Common Core State Standards in Mathematics: Counting and Cardinality and Operations and Algebraic Thinking</i>, p. 2-3, 22-28 http://commoncoretools.files.wordpress.com/2011/05/css_progression_cc_oa_k5_2011_05_3_02.pdf <p>Strategies and Tasks:</p> <ul style="list-style-type: none"> • <i>North Carolina Department of Public Instruction</i>, p.1-4 http://maccss.ncdpi.wikispaces.net/Th
		3. Represent multiplication with the array to show the relationship among all the numbers involved (factor x factor = product). Use context so students will be able to visualize "rows/columns of" a particular group.	Build rectangular arrays using "rows of." Describe arrays in terms of equal groups (by rows or by columns). For example, "There are __ rows/columns of __." Partition arrays into smaller arrays (concept of decomposition) See CA Framework pg 14. Word Problems (with tape Diagrams) http://www.engageny.org/resource/word-problems-with-tape-diagrams		
	"Two Interpretations of Division" http://www.illustrativemathematics.org/illustrations/344 "Gifts from Grandma" Variation1 http://www.illustrativemathematics.org/illustrations/262 "Finding the unknown in a division equation"	4. Recognize division in two different situations – equal sharing (e.g., how many are in each group?), and determining how many groups (e.g., how many groups can you make?)	Use the terms "number of objects in a group"(3 x __ = 18 and 18 ÷ 3 = __) or "number of groups" (__ x 6 = 18 and 18 ÷ 6 = __) with students rather than "partitive division" or "quotitive division." Use the array model to determine the unknown in		

Unit #1: Represent and Understand Multiplication and Division

Essential Questions	Suggested Assessments for Learning	Sequence of Learning Outcomes	Strategies for Teaching and Learning	Differentiation e.g., EL/SpEd/GATE	Resources
	http://www.illustrativemathematics.org/illustrations/1814		division.	<ul style="list-style-type: none"> ○ Trends ○ Big Ideas ○ Complexity 	ird+Grade
		5. Model the relationship between multiplication and division by using a variety of methods, such as bar modeling, number line, arrays, etc.	Model division as the unknown factor in multiplication in multiple ways (for example, bar modeling, number line, arrays, etc.). Solve multiplication and division problems: using a diagram http://learnzillion.com/lessons/54-solve-multiplication-and-division-problems-using-a-diagram	Math Centers (Tubs) http://gdoe.georgiastandards.org/mathframework.aspx?PageReq=MathCenter	<ul style="list-style-type: none"> • Illustrative Mathematics www.illustrativemathematics.org • engageNY http://www.engageNY.org/sites/default/files/resource/attachments/math-g3-m2-full-module.pdf
	“Analyzing Word Problems Involving Multiplication” https://www.illustrativemathematics.org/illustrations/365	6. Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities.			<ul style="list-style-type: none"> • CCGPS https://www.georgiastandards.org/Common-Core/Common%20Core%20Frameworks/CCGPS_Math_3_Unit2FrameworkSE.pdf
	Culminating Task: “Ice Cream Scoops,” Part II only, pp. 156-162 CCGPS Ice Cream Scoops Performance Task.pdf				<ul style="list-style-type: none"> • Think Time and Collaborative Learning https://www.teachingchannel.org/videos/independent-and-group-work

Unit #1: Represent and Understand Multiplication and Division

Essential Questions	Suggested Assessments for Learning	Sequence of Learning Outcomes	Strategies for Teaching and Learning	Differentiation e.g., EL/SpEd/GATE	Resources
					<ul style="list-style-type: none"> • Third Grade Math: A Complete Lesson https://www.teachingchannel.org/videos/classroom-daily-routines • Catch and Release: Encourage Independence https://www.teachingchannel.org/videos/effective-teaching-technique • Adjusting Lessons: Have a Plan B https://www.teachingchannel.org/videos/teacher-backup-plans <p>Differentiation:</p> <ul style="list-style-type: none"> • http://scusd-math.wikispaces.com/home • Universal Design for Learning

Unit #2: Place Value and Problems with Units of Measure

(Approx. # Days)

Content Standards: 3.NBT.1, 3.NBT.2, 3.MD.1, 3.MD.2, 3.OA.8

Math Common Core Content Standards:

Domain: Number and Operations in Base Ten 3.NBT

Use place value understanding and properties of operations to perform multi-digit arithmetic.

1. Use place value understanding to round whole numbers to the nearest 10 or 100.
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.

Domain: Operations and Algebraic Thinking

Solve problems involving the four operations, and identify and explain patterns in arithmetic.

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.

Domain: Measurement and Data 3.MD

Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.

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.
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 problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as beaker with a measurement scale) to represent the problem.

Standards for Mathematical Practice:

- SMP 1 Make sense of problems and persevere in solving them
- SMP 2 Reason abstractly and quantitatively
- SMP 3 Construct viable argument and critique the reasoning of others
- SMP 4 Model with mathematics
- SMP 6 Attend to precision
- SMP 7 Look for and make use of structure
- SMP 8 Look for and express regularity in repeated reasoning

SEL Competencies:

- Self-awareness, Self-management, Social awareness, Relationship skills,
- Responsible decision making

ELD Standards to Support Unit

Part I: interacting in Meaningful Ways

A. Collaborative

1. Exchanging information and ideas with others through oral collaborative conversations on a range of social and academic topics
2. Interacting with others in written English in various communicative forms (print, communicative technology, and multimedia)
3. Offering and supporting opinions and negotiating with others in communicative exchanges
4. Adapting language choices to various contexts (based on task, purpose, audience, and text type)

B. Interpretive

5. Listening actively to spoken English in a range of social and academic contexts
6. Reading closely literary and informational texts and viewing multimedia to determine how meaning is conveyed explicitly and implicitly through language
7. Evaluating how well writers and speakers use language to support ideas and opinions with details or reasons depending on modality, text type, purpose, audience, topic, and content area
8. Analyzing how writers and speakers use vocabulary and other language resources for specific purposes (to explain, persuade, entertain, etc.) depending on modality, text type, purpose, audience, topic, and content area

C. Productive

9. Expressing information and ideas in formal oral presentations on academic topics
11. Supporting own opinions and evaluating others' opinions in speaking and writing
12. Selecting and applying varied and precise vocabulary and language structures to effectively convey ideas

Part II. Learning About How English Works

A. Structuring Cohesive Texts

1. Understanding text structure
2. Understanding cohesion

B. Expanding and Enriching Ideas

5. Modifying to add details

C. Connecting and Condensing Ideas

6. Connecting ideas
7. Condensing ideas

Unit #2: Place Value and Problems with Units of Measure

Essential Questions	Suggested Assessments for Learning	Sequence of Learning Outcomes	Strategies for Teaching and Learning	Differentiation e.g., EL/SpEd/GATE	Resources
<ul style="list-style-type: none"> What does “base ten” mean? What does “rounding” mean? How can a number line help you round? When might you round to the nearest 10? When might you round to the nearest 100? In what kinds of situations is it appropriate to estimate? Why? Why is it useful to tell and write time to the nearest minute? What is an interval? How do you select an appropriate interval for a number line? When might you measure and estimate liquid volumes and masses of objects in your everyday life? 	<p>Assessments/Tasks aligned to learning experiences:</p> <p>“Cafeteria Lunch Orders” 3.NBT.1 Task 1.doc</p> <p>“Comparing Heights” 3.NBT.1 Task 2.doc</p> <p>“Rounding to 50 or 500” https://www.illustrativemathematics.org/illustrations/745</p> <p>“Rounding to the Nearest Ten and Hundreds” https://www.illustrativemathematics.org/illustrations/1805</p> <p>“Rounding to the Nearest Ten and Hundreds” https://www.illustrativemathematics.org/illustrations/1805</p> <p>“All About Rounding” 3.NBT.1 Task 3.doc</p> <p>“Toys for Us, Task #2” 3.NBT.2 Task 2.doc</p>	<p>Students will be able to...</p> <p>1. Use place value to round numbers to the nearest 10 on a number line.</p> <p>2. Use place value to round numbers to the nearest 100 on a number line.</p> <p>3. Estimate to solve one-step addition and subtraction problems using rounding strategies.</p>	<p>Describe the distance of the two decade numbers (see KATM, p. 26-27). Using a number line, plot decade numbers to identify the halfway point between 2 possible answers on a number line Use a number line or a hundreds chart as tools to support students’ understanding of place value</p>	<p><i>Use of math journals for differentiation and formative assessment (use link below)</i> https://www.teachingchannel.org/videos/math-journals</p> <p>Flexible grouping:</p> <ul style="list-style-type: none"> Content Interest Project/product Level (Heterogeneous/Homogeneous) <p>Tiered:</p> <ul style="list-style-type: none"> Independent Management Plan (Must Do/May Do) Grouping <ul style="list-style-type: none"> Content Rigor w/in the concept Project-based learning Homework 	<p>CCSS Support:</p> <ul style="list-style-type: none"> CA Mathematics Framework <ul style="list-style-type: none"> “Grade 3”, pp. 15-16 http://www.cde.ca.gov/ci/ma/cf/documents/aug2013grade3.pdf “Instructional Strategies” http://www.cde.ca.gov/ci/ma/cf/documents/aug2013instructionalstrat.pdf “Supporting High Quality Common Core Instruction” http://www.cde.ca.gov/ci/ma/cf/documents/aug2013supportinghqccm.pdf Kansas Association

Unit #2: Place Value and Problems with Units of Measure

Essential Questions	Suggested Assessments for Learning	Sequence of Learning Outcomes	Strategies for Teaching and Learning	Differentiation e.g., EL/SpEd/GATE	Resources
	<p>“Classroom Supplies” https://www.illustrativemathematics.org/illustrations/1315</p> <p>“From 100 to 0” 3.NBT.2 Task 3.doc</p> <p>“Mrs. Snyder’s Game Board” 3.NBT.2 Task 1.doc</p> <p>“Morning Schedule” 3.MD.1 Task 1.doc</p> <p>“Edna’s Busy Day,” 3.MD.1 Task 2.doc</p> <p>“Norman’s Number Line” 3.MD.1 Task 3.doc</p> <p>“Weighing Fruits” 3.MD.2 Task 1.doc</p>	<p>4. Solve word problems involving three digit numbers using estimation to check for reasonableness in the solution. Use strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.</p> <p>5. Tell, write, and measure lengths of time using analog and digital clocks. Solve real world problems involving elapsed time by representing the problems on a number line diagram.</p> <p>6. Estimate, then measure weight in metric units (grams and kilograms).</p>	<p>Have students make estimations before solving the word problems. After students have solved the problems with the exact answer, have students explain how close their estimation was to the actual solution.</p> <p>Have students solve problems with the unknown in all positions.</p> <p>Relate clock to a number line when solving for elapsed time.</p> <p>Make a schedule (for example, 15 minutes for breakfast, 10 minutes in the bathroom, 5 minutes to get dressed, etc.) to determine time elapsed by using a number line, clock, or numbers.</p> <p>Connect the metric system to the base-ten place value system</p> <p>Give students opportunity to weigh objects.</p> <p>Students need opportunities to estimate before measuring (see KATM,</p>	<ul style="list-style-type: none"> ○ Grouping ○ Formative Assessment <p>Anchor Activities:</p> <ul style="list-style-type: none"> ● Content-related ● Tasks for early finishers <ul style="list-style-type: none"> ○ Game ○ Investigation ○ Partner Activity ○ Stations <p>Depth and Complexity Prompts/Icons:</p> <ul style="list-style-type: none"> ● Depth <ul style="list-style-type: none"> ○ Language of the Discipline ○ Patterns ○ Unanswered Questions ○ Rules ○ Trends ○ Big Ideas ○ Complexity 	<p><i>of Teachers of Mathematics (KATM) 3rd Flipbook, p. 26-31</i> http://katm.org/wp-content/uploads/flipbooks/3flipbookedited_2.pdf</p> <ul style="list-style-type: none"> ● <i>Progression for the Common Core State Standards in Mathematics: Number and Operations in Base Ten, p.2-4, 11</i> http://commoncoretools.me/wp-content/uploads/2011/04/ccss_progression_nbt_2011_04_07_3_corrected2.pdf ● <i>Progression for the Common Core State Standards in Mathematics: Measurement and Date (measurement</i>

Unit #2: Place Value and Problems with Units of Measure

Essential Questions	Suggested Assessments for Learning	Sequence of Learning Outcomes	Strategies for Teaching and Learning	Differentiation e.g., EL/SpEd/GATE	Resources
			<p>p.40). Be aware of this misconception: students often determine mass based on the size of the object.</p>		<p>part), p. 2-4, 15-19 http://commoncoretools.files.wordpress.com/2012/07/css_progression_gm_k5_2012_07_21.pdf</p>
	<p>“Measuring Water” 3.MD.2 Task 2.doc</p>	<p>7. Estimate, then measure liquid volume in metric units (liters).</p>	<p>Give students opportunity to fill containers. Students need opportunities to estimate before measuring (see KATM, p.40).</p>		<ul style="list-style-type: none"> • <i>Progression for the Common Core State Standards in Mathematics: Counting and Cardinality and Operations and Algebraic Thinking</i>, p. 2-3, 27-28 http://commoncoretools.files.wordpress.com/2011/05/css_progression_cc_oa_k5_2011_05_302.pdf
		<p>8. Add and subtract to solve one-step word problems involving masses that are given in the same units by using drawings to represent the problem.</p>	<p>Students should solve measurement problems with the unknown in all positions, while conserving units.</p>		
		<p>9. Add and subtract to solve one-step word problems involving volumes that are given in the same units by using drawings to represent the problem.</p>	<p>Students should solve measurement problems with the unknown in all positions, while conserving units.</p>		
	<p>Mid-point Check and Post Assessment - engageNY, Module 2 Tasks 1-5 Gr 3 Unit 2 Mid-Post Assessments.pdf</p>				<p>Strategies and Tasks:</p> <ul style="list-style-type: none"> • <i>North Carolina Department of Public Instruction</i>, pp.15-16 http://maccss.ncdpi.wikispaces.net/Th

Unit #2: Place Value and Problems with Units of Measure

Essential Questions	Suggested Assessments for Learning	Sequence of Learning Outcomes	Strategies for Teaching and Learning	Differentiation e.g., EL/SpEd/GATE	Resources
					<p>ird+Grade</p> <ul style="list-style-type: none"> Illustrative Mathematics www.illustrativemathematics.org engageNY http://www.engageny.org/sites/default/files/resource/attachments/math-g3-m2-full-module.pdf <p>Differentiation:</p> <ul style="list-style-type: none"> http://scusd-math.wikispaces.com/home Universal Design for Learning