3rd Grade Unit 7 Priorities Document

Please see the Draft Grade 3 Math Overview and Scope and Sequence for important information about the year and emphases for each unit.

Overarching Big Ideas

● *Less is more*	● *Depth vs. breadth*	● *Relationships over everything*	● *Access for all, especially emerging bilinguals & students with disabilities*

	Window (change)	Big Idea	Comments	Standards (Priority Standards bolded)	
Unit 3.7 Division	4 weeks (was 14 days)	Groups of objects or measurements can be divided by partitioning them into equal shares (partitive) and by grouping them into groups of a known size (quotative). Multiplication and division are inverse operations that can be used to solve problems involving equal groups, arrays, and area measurements.	None of the standards in this unit are de-emphasized	**3.OA.2** **3.OA.3** **3.OA.4**	**3.OA.6** **3.OA.7**

Norms

Answers are important, but they are not the math.	Talk about each other's thinking.	Errors are gifts that promote discussion.	Ask questions until ideas make sense.	Use multiple strategies and multiple representations.

2020-21 SFUSD Elementary Math Distance Learning Resources	**Gr 3 Curriculum Portal**	**Games in the Gr 3 Curriculum**	**Math Talks Bank**

Optional Routines:	● Number of Days in School (Spanish) ● Counting Routine ● Data Routine ● Number of the Day Routine / Jamboard Number of the Day (Spanish).	Optional Math Talks (Spanish) include Estimating with Multiplication and Multiplication Subitizing

Emphasized Standards in this unit:

Operations and Algebraic Thinking
Represent and solve problems involving multiplication and division.
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.
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.
3.OA.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 × ? = 48, 5 ▯ ÷ 3, 6 × 6 = ?.*

Understand properties of multiplication and the relationship between multiplication and division.
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.

In this unit, student work with the relationship between multiplication and division utilizes and reinforces this fluency standard:
Multiply and divide within 100.
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.

New Learning in this Unit:

- Whole number quantities can be divided into equal groups.
- We can decide how many groups to divide a collection of items into and find out how many are in each group.
- We can decide how many will be in each group and find out how many groups there are.
- Multiplication or division can be used to find the number of rows or the number of columns or the number IN each row or the number IN each column.
- The same situation can be represented as a division problem or a multiplication problem with an unknown factor.
- Situations involving multiplication and division can be represented in a variety of ways. Related equations may be represented differently depending on what information is known and what is unknown.
- Related multiplication and division equations using a symbol for the unknown quantity can represent the same real life situation.

Note: In this unit, students work with three types of division situations.
- **Partitive** division situations, in which the number of groups is known, and the number in each group is unknown.
- **Quotitive** division situations, in which the number in each group is known, and the number of groups is unknown.
- **Array** situations in which either the number of rows or columns, or the number in each row or column, is known.

The Relationship between Multiplication and Division	Division Language	Typing the ÷ symbol
It is important to connect what students already know about multiplication when introducing division concepts. Most likely, students have already encountered division situations in the form of a missing factor problem. When posing problems to students keep in mind that when the number and size of groups are known, the problem is a multiplication situation and when the number of groups or size of groups is unknown it is a division situation. (Van De Walle, J. 2013).	Division is sometimes discussed using the phrase goes into, as in 6 goes into 24. This phrase carries little meaning about division, especially in connection with a fair-sharing or partitioning context; the "goes into" terminology is simply ingrained in adult parlance. In place of goes into, use more appropriate terminology with students, such as, How many groups of 6 are in 24?	In this unit, students are introduced to the division symbol: ÷ Unlike the addition, subtraction, and multiplication symbols, the division symbol is not usually found on computer keyboards. **Here are instructions for inserting it:** **On a mac:** Option (or alt) + Forward slash / **OR** use "Show Emoji and Symbols" under the keyboard menu **On a PC:** alt 0247 (you must use the numeric keypad for this to work) **On a Chromebook:** ● press and release **Ctrl + Shift + U** ● You'll see 'u' in the text field ● enter **00f7** and press **Spacebar** **Other options:** ● In **Seesaw** there is a division symbol in "Shapes" ● In **Google Slides** there is a division symbol in shapes ● A final option is to use the slash: /

Fluency resources for Multiplication and division		Other Resources
● **Recommended**: [Multiplication by Heart](#) incorporates visuals and uses subitizing to connect different ways of representing multiplication to fluency. More information in [this video](#) and/or this [slide deck](#).	**Other recommended fluency resources:** ● From Sine of the Times: ○ [Construct a Building](#) ○ http://www.sineofthetimes.org/splitting-arrays/ ○ [Video about how to use these sites](#). ○ [Bunny Times](#) - array model of multiplication ● 4 in a row from [Games on Google Slides - From Duane Habecker](#) ● [Multiplication Subitizing Slide Deck](#) - may be used with individuals or small groups. A [PDF of Subitizing cards](#) is available. This [video](#) shows the cards in use. ● This [interactive](#) multiplication [chart](#) has options for students to color-code products. ● [Interactive Multiplication Tables](#) is a large multiplication table with many options for students.	3.7 Podcast Unit 3.7 Family Letter S C * 3.7 Tech Resources * S = Spanish Student Page * C = Chinese Student Page **Classwork and Homework PDFs** 3.7 Classwork S C 3.7 Homework S C
Once students have a strong conceptual understanding of division and its inverse relationship to multiplication, they can start to incorporate this into their fluency practice. Fluency with division is an extension of fluency with multiplication, not a separate thing. If I know that 4 x 6 = 24, I also know that 24 ÷ 4 = 6 and 24 ÷ 6 = 4.		

[3.7 Slidedeck](#) / **[Spanish](#)**

	Optional [Math Talks](#) ([Spanish](#)) include Estimating with Multiplication and Multiplication Subitizing		
	Unit Warm-up: Connect the topic to something familiar to your students. ● Shapes inside Shapes ● Numbers inside Numbers ● Students explore ways to break 12 items (stars) up into equal groups. ● Students use cut-up paper, or [Unit 3.7 Warm Up Jamboard](#) ([Spanish](#)) or [Unit 3.7 Student Slides](#) ([Spanish](#))		
	Recommended Lessons	**Strengths to highlight & Notebook Prompt**	**Notes and Continuing Activities**
Lesson 1 ([Entry Task](#))	**LAUNCH** Whole Class or Groups: ● Pick a focus norm ● Introduce Fair Share division and the story *The Doorbell Rang* **EXPLORE** Independent or Group work: ● Student page: [The Doorbell Rang Student](#) S C ● [Unit 3.7 Student Slides](#) ([Spanish](#)) - for individual or group work. ● [Seesaw 3.7 Entry The Doorbell Rang](#) ([Spanish](#)) - for individual work **SUMMARIZE** Whole Class or Groups: **Core Math to Emphasize** ● Whole number quantities can be divided into equal groups.	**Strengths:** Our class of mathematicians knows that we can use pictures and materials to help us understand situations. 📝 What does it mean to divide things into equal groups? The optional Notebook Prompts may be completed on this [Math Notebook](#) or this [Math Notebook](#)	**Options for Continuing Activities** ● Students may write their own division problems, using cookies as the context of the problem, and exchange with other students. ● Students can make a table like the one in the launch for other numbers. ● [Sharing Halloween Candy | Cyberchase](#) is a video about how to use rounds to make sure partitive division is fair. The follow-up ([Sharing Candy among Gargoyles](#)) moves from counting to using repeated addition to do partitive division. (English only) ● Students should continue to develop their fluency with multiplication. [See this slide for a comprehensive list of recommendations.](#)
Lesson 2 ([LS1 Day 1](#))	**LAUNCH** Whole Class or Groups: ● Pick a focus norm ● Introduce *Making Groups* with the 3-Read Protocol **EXPLORE** Independent or Group work: ● If students have access to a manipulative* at home, have them work with the manipulative. *Students may use beans, torn up pieces of paper, paper clips, or anything else they have or can easily make. ● Use the [Unit 3.7 Lesson 2 Making Groups Jamboard](#) ([Spanish](#)) for individual / group work. ● [Unit 3.7 Student Slides](#) ([Spanish](#)) - for individual or group work.	**Strengths:** Our class of mathematicians knows that division is related to multiplication. 📝 What are you noticing so far about division and multiplication? The optional Notebook Prompts may be completed on	

	● Seesaw 3.7 Making Groups (Spanish) - for individual work Note: Students do **not** have a copy of the Making Groups BLM S C in their workbooks. <mark>SUMMARIZE</mark> **Whole Class or Groups:** **Core Math to Emphasize** ● We can decide how many groups to divide a collection of items into and find out how many are in each group.	this Math Notebook or this Math Notebook	
Lesson 3 (LS1 Day 2)	<mark>LAUNCH</mark> **Whole Class or Groups:** ● Pick a focus norm ● Introduce *How* Many *Groups?* <mark>EXPLORE</mark> **Independent or Group work:** ● If students have access to a manipulative* at home, have them work with the manipulative. *Students may use beans, torn up pieces of paper, paper clips, or anything else they have or can easily make. ● Use the Unit 3.7 How Many Groups Jamboard (Spanish) for individual / group work. ● Unit 3.7 Student Slides (Spanish) - for individual or group work. ● Seesaw 3.7 How Many Groups (Spanish) - for individual work. *Note: Students do* **not** *have a copy of the How Many Groups? BLM* S C *in their workbooks* <mark>SUMMARIZE</mark> **Whole Class or Groups:** **Core Math to Emphasize** ● When we divide a collection of items, we can decide how many will be in each group and find out how many groups there are.	**Strengths:** Our class of mathematicians knows that we can show a situation with different types of pictures and diagrams. 🗒️ If you were explaining division to your little sister or cousin, what would you say? The optional Notebook Prompts may be completed on this Math Notebook or this Math Notebook	
Lesson 4 (LS 1 Day 3)	<mark>LAUNCH</mark> **Whole Class or Groups:** ● Pick a focus norm ● Reintroduce arrays. ● Use the 3-Read Protocol to introduce *Rows and Columns.* <mark>EXPLORE</mark> **Independent or Group work:** ● Home-made manipulatives ● Use the Unit 3.7 Rows and Columns Jamboard (Spanish) for individual or group work. ● Unit 3.7 Student Slides (Spanish) - for individual or group work. ● Seesaw 3.7 Rows and Columns (Spanish) - for individual work. *Note: Students do* **not** *have a copy of the* Rows and Columns BLM S	**Strengths:** Our class of mathematicians knows that sometimes new ideas are confusing. 🗒️ What was challenging today? What was easy? The optional Notebook Prompts may be completed on	**Options for Continuing Activities** ● Students can find all the ways to organize the desks into rows and columns, and write equations for each using multiplication and division (this may be a class project). ● Pose other "what if" questions, such as: ○ What if the teacher wanted

	C	this Math Notebook or this Math Notebook	to put students in rows of _____?
	SUMMARIZE Whole Class or Groups:		○ What if the teacher wanted to put _____ students in each row?
	Core Math to Emphasize		○ How are these two situations similar/different?
	● An array is an arrangement of equal rows and columns.		
	● Multiplication or division can be used to find the number of items in each row when we know the number of rows or the number of rows if we know the number of items in each row.		
Lesson 5 (Apprentice Task)	**LAUNCH Whole Class or Groups:** ● Pick a focus norm ● Review what we know about division. ● Introduce problems **EXPLORE Independent or Group work:** ● Student page: Apprentice Task S C ● Unit 3.7 Student Slides (Spanish) - for individual or group work. ● Seesaw 3.7 Apprentice Task Division Problems (Spanish) - for individual work **SUMMARIZE Whole Class or Groups:** **Core Math to Emphasize** ● Division can be represented in multiple ways. Different representations can lead to different counting strategies for finding an unknown number of groups, items in each group, number of items in each row or column.	**Strengths:** Our class of mathematicians knows that many different situations can be solved with division. 📄 Which type of division problem is very clear to you? Which is still confusing? The optional Notebook Prompts may be completed on this Math Notebook or this Math Notebook	● Students should continue to develop their fluency with multiplication. See this slide for a comprehensive list of recommendations.
Lesson 6 (LS 2 Day 2)	**LAUNCH Whole Class or Groups:** ● Pick a focus norm ● Introduce writing division stories with unknowns **EXPLORE Independent or Group work:** ● Student page: Writing Math Problems S C ● Unit 3.7 Student Slides (Spanish) - for individual or group work. ● Seesaw 3.7 Lesson 6 Ant Problems (Spanish) - for individual work **SUMMARIZE Whole Class or Groups:** **Core Math to Emphasize** ● The same situation can be represented as a division problem or a multiplication problem with an unknown factor.	**Strengths:** Our class of mathematicians knows that we can understand each other's work by asking questions. 📄 How are multiplication and division related? The optional Notebook Prompts may be completed on	**Options for Continuing Activities** ● Students can write and exchange their own stories, based on the Milestone Task stories they wrote in Unit 3.5. ● Students can write new stories using the Milestone Task Template from Unit 3.5 and modify them to have different unknowns and represent division situations. ● Students can do the Headlines activity from LS 2

		this Math Notebook or this Math Notebook	Day 3: Headlines BLM S C
	Once students have a strong conceptual understanding of division and its inverse relationship to multiplication, they can start to incorporate this into their fluency practice. Fluency with division is an extension of fluency with multiplication, not a separate thing. If I know that 4 x 6 = 24, I also know that 24 ÷ 4 = 6 and 24 ÷ 6 = 4. See this slide for a comprehensive list of recommendations		
Lesson 7 (Expert Task)	**LAUNCH Whole Class or Groups:** ● Pick a focus norm ● Review the inverse nature of multiplication and division ● Introduce Card Sort **EXPLORE Independent or Group work:** ● Grade 3 Unit 7 Expert Jamboard (Spanish) ● Unit 3.7 Student Slides (Spanish) - for individual or group work. ● Seesaw 3.7 Expert Task (Spanish) - for individual work *Note: Students do **not** have a copy of the* Expert Task FRL Cards BLM S C, *in their workbooks.* **SUMMARIZE Whole Class or Groups:** **Core Math to Emphasize** ● Situations involving multiplication and division can be represented in a variety of ways. ● Related equations may be represented differently depending on what information is known and what is unknown.	**Strengths:** Our class of mathematicians knows that seeing different representations for a situation can help us understand it. 📝 Which representation made the most sense to you? Why? The optional Notebook Prompts may be completed on this Math Notebook or this Math Notebook	**Options for Continuing Activities** ● SPLAT is a free, interactive PowerPoint presentation. ● These SPLAT lessons are recommended for division: Splat 3.1 Splat 3.2 Splat 3.3 Splat 3.4 Splat 3.5 More lessons are available ● Seeing Division A visual introduction to quotative and partitive division by John Ulbright
Lesson 8 (LS 3 Day 2)	**LAUNCH Whole Class or Groups:** ● Pick a focus norm ● Use a cookie context to introduce different ways of writing multiplication and division problems with unknowns. **EXPLORE Independent or Group work:** ● Student page: Problems with Unknowns S C ● Unit 3.7 Student Slides (Spanish) - for individual or group work. ● Seesaw 3.7 Lesson 8 Division Problems (Spanish) - for individual work **SUMMARIZE Whole Class or Groups:** **Core Math to Emphasize**	**Strengths:** Our class of mathematicians knows that the same diagram can show division and multiplication. 📝 How would you figure out what n means in 4 x n = 20?	● The Kentucky Center for Mathematics offers this excellent collection of resources to support multiplication and division concepts and fluency with visuals. **KenKens** are a versatile puzzle that helps students master basic computation skills while employing advanced problem-solving strategies.

	● Situations involving equal groups or arrays can be represented by both multiplication and division equations with a symbol for the unknown.	The optional Notebook Prompts may be completed on this Math Notebook or this Math Notebook	http://www.kenkenpuzzle.com/teachers/classroom is a site that sends out weekly KenKen puzzles by email.
Lesson 9 (LS 3 Day 3)	**LAUNCH Whole Class or Groups:** ● Pick a focus norm ● Introduce *Matching Equations to Situations* **EXPLORE Independent or Group work:** ● Student page: Matching Problems with Equations S C ● Unit 3.7 Student Slides (Spanish) - for individual or group work. ● Seesaw 3.7 Lesson 9 Multiplication and Division with Unknowns (Spanish) - for individual work **SUMMARIZE Whole Class or Groups:** **Core Math to Emphasize** ● Related multiplication and division equations using a symbol for the unknown quantity can represent the same real life situation.	**Strengths:** Our class of mathematicians knows that it can be challenging to think of a math story. 🗒 How can multiplication and division show the same situation? The optional Notebook Prompts may be completed on this Math Notebook or this Math Notebook	KenKens come in sizes from 3 x 3 to 9 x 9, and in varying levels of difficulty, so students can work at a level that is comfortable yet challenging for them.
Lesson 10 (Milestone Task)	**LAUNCH Whole Class or Groups:** ● Pick a focus norm ● Review all that has been learned about division in this unit ● Introduce the Milestone Task. **EXPLORE Independent or Group work:** *Note:* Provide access to any tools or manipulatives students have used throughout this unit. ● Unit 3.7 Student Slides (Spanish) - for individual or group work. ● Seesaw 3.7 Milestone Task (Spanish) - for individual work Note: Students do **not** have a copy of the Division BLM S C in their workbooks. **SUMMARIZE Whole Class or Groups:** **Core Math to Emphasize** ● Any of the core math of this unit may be emphasized in the Summary. ● Use your observation of student work and struggles to pick one point to emphasize in the summary.	**Strengths:** Our class of mathematicians knows that when we are learning about a new idea, we can have lots of questions. 🗒 What is a question that you still have about division? The optional Notebook Prompts may be completed on this Math Notebook or this Math Notebook	**Options for Continuing Activities** **Milestone Scoring** ● Use Division Rubric Teacher and Division Suggested Answer Guide Teacher as guidance to review student work ● Milestone scores can be entered in illuminate using these instructions. **Consider giving students the opportunity to revise their work after the summary.**

	Options for Continuing Activities ● Fluency with multiplication and division within 100 is an *end of year* goal for students. [See this slide for a comprehensive list of recommendations](#)