Grade K Math Curriculum Guide

In Kindergarten, instructional time should focus on two critical areas:

- Representing, relating, and operating on whole numbers, initially with sets of objects
- Describing shapes and space.

More learning time in Kindergarten should be devoted to numbers than to other topics.

Eugene School District 4J Elementary math curriculum is comprised of LearnZillion with Number Talks and selected math games integrated. The following document contains pacing and usage guidance for these three components.

Overall pacing guidance is given by month to ensure teachers have flexibility to use the information about the major ( ), supporting ( )and additional ( ) work for your grade-level and professional judgment when meeting the needs of students. It is most important to ensure students have opportunities to master grade-level content standards rather than teaching each lesson. Student unit workbooks are color coded to convey the primary domain of their learning.

Instructional Days	172.5**	Lessons Available	163
Term 1	88	Units 0-7	82*
Term 2	84.5	Units 8-15	81

* include Unit 0 available lessons

** The district holds KinderZone the first 3 days of school.

Color Key by Domain	NF	OA	CC	GEO	NBT	MD

Unit-at-a-Glance pages are available for each unit at Eugene4J.LearnZillion.com. These pages detail prior knowledge, common misconceptions, differentiation/game resources, Number Talk recommendations, and more. Unit Planners indicate important vocabulary, materials to prep/gather, possible formative checkpoints, and expected representations/strategies.

Key Concepts for each unit can provide instructional guidance around the main focus for student learning and the depth of exploration and mastery toward a standard. Key Concepts are taught through a sets of lessons based on the 3 aspects of rigor: Conceptual, Fluency/Procedure, and Application. The final focused opportunity for each standard is noted with black outline. A standard that is isolated to a single unit is indicated with +.

Standards for Math Practice (MP#) have been listed for each unit. While the curriculum highlights opportunities to elevate these in learning, it is essential that these standards be embedded into student learning when they occur regardless of the few called out in this document. For more information on the Standards for Math Practice, please visit: Illustrative Math

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Number Talk Guidance: Number Talks are an essential instructional routine provided to support development of mental math fluency and strategic number sense. This important routine should be incorporated outside of the 60-minute math block on a regular basis. A variety of Number Talks have been recommended for use at the start of school, fall, winter and spring. Use your professional judgment along with the collaborative efforts of building staff and Staff Development Specialists when meeting the needs of students.

Game Resource Guidance: It is critical to note that fluency requires a balance of conceptual understanding and computational procedures. Well-posed and engaging math games afford students excellent opportunities to develop this understanding**.** These games have been identified in Investigations and other resources and provided by unit to reinforce prior knowledge concepts or enhance the key concepts of a unit. Guidance is provided for when and how to integrate these games, however, use your professional judgment when meeting the needs of students.

A few questions teams have asked while using this document:

- What are the concepts covered term 1 vs term 2? How does the standard progress over the year? Where does the standard occur before it is finalized?
- Knowing all standards must be learned and the majority of the year (~80%) should be spent on major work ( ), where can we compact, not skip, if needed?
- What is the focus of the unit? What is the primary domain? Is it major ( ), supporting ( ), or additional ( )work?
- How will strategies for fluency (efficiency, accuracy, flexibly) be built through games and Number Talks over the year?
- What are the Key Concepts students should master in this unit? To what depth is the current unit calling for? (range of numbers, strategies, use of abstraction like equations, concept awareness and flexibility, etc.)
- Within the unit, for each Key Concept, what do I want ALL of my students to know an be able to do?
- How can I use the set of lessons available for a Key Concept to support ALL of my students in this learning?
- What “I can” or “I know” statements would make the Key Concepts clear to my learning community?
- What evidence can I gather to show students have learned the Key Concept?
- Considering the Key Concept, how will I support students who need more support or are ready for more challenge? What games or Number Talks might support my learning community?
- How can I leverage and reinforce the Math Practices as students learn Key Concepts?

Reach out to your school’s Staff Development Specialist if clarification or support is needed.

Reporting Period 1

Instructional Days: 88	**LearnZillion Units:** 0-7 (82 lessons available)

★	**Unit 0: Building a Mathematical Community in Kindergarten (Lessons: 5)** Ideas to compact: Unit 0's Lessons 4 & 5 can be combined with Unit 1's Lessons 1 & 2	
	Lesson & Standards	Key Concepts
September	**Unit 1 - Rote counting and understanding amount counted**	
	Lessons: 11 (10+assessment) K.CC.A.1 K.CC.B.4.a K.CC.B.4.b MP2, MP 6	1. Numbers exist in a sequence that does not change, and can be counted. 2. Each item in a collection must be counted once and only once. 3. The last number name used names the quantity of objects in the set.
October	**Unit 2 - Rote counting and understanding amount counted**	
	Lessons: 11 (10+assessment) K.CC.A.3 K.CC.B.4.b K.CC.B.5 MP2	1. The last number name said tells the number of objects. 2. Any number of objects can be represented with a written numeral. 3. The number of objects is the same regardless of their arrangement or the order in which they were counted.
October	**Unit 3 - Classifying and counting objects** Ideas to compact:	
	Lessons: 11 (10+assessment) K.CC.B.5 K.MD.B.3 K.G.A.1 MP1, MP2, MP3	1. We can count to answer how many objects are arranged in a line or a rectangular array. 2. Objects can be sorted and counted to identify how many are in a category. 3. Objects in our environment can be described using positional words (above, below, beside, etc.)
November	**Unit 4 - Understanding and representing addition within 5**	
	Lessons: 11 (10+assessment) K.CC.B.4.c+ K.OA.A.1 MP1, MP4	1. Each successive number name refers to a quantity that is one greater. 2. Addition can be understood as putting together. 3. Addition can be understood as adding to.

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End Nov - December	**Unit 5 - Identifying and describing shapes** Ideas to compact:	
	Lessons: 11 (10+assessment) K.G.A.1+ K.G.A.2+ K.G.B.5 MP2 , MP3, MP7	1. Shapes have names that are based on their attributes, and three of these shapes are squares, circles, and triangles. 2. The name of a shape is invariant with regard to its orientation or size. 3. We can use various components to model shapes in the real world.
End Dec - January	**Unit 6 - Adding and subtracting within 5**	
	Lessons: 11 (10+assessment) K.OA.A.1 K.OA.A.2 K.OA.A.3 MP1, MP4, MP7, MP8	1. Subtraction can be understood as taking apart. 2. Subtraction can be understood as taking from. 3. The same number can be decomposed in more than one way.
January	**Unit 7 - Rote counting to 50 and representing up to 20 objects**	
	Lessons: 11 (10+assessment) K.CC.A.1 K.CC.A.2 K.CC.A.3 K.CC.B.4a, K.CC.B.4b MP2, MP 6 & MP7	1. The number sequence remains the same regardless of the starting number (up to 50 in this unit). 2. Any number (within 20) of objects can be represented with a written numeral. 3. The number of objects arranged in a line, rectangular array, or circle is the same no matter how it is arranged.

Standards in Progress...	**Standards Finalized (moved to in Maintenance)**	**Standards Not Yet Taught**
K.CC.A.1, K.CC.A.2, - Writes numbers to 20 and rote count to 50 starting at any number. **K.OA.A.1, K.OA.A.2, K.OA.A.3 -** Conceptually understand the actions of subtraction as take apart and take from and addition as put together and add to. Students should represent these situations within 5 (using objects, fingers, drawings, etc) and understand that numbers within 5 can be decomposed in many ways. **K.MD.B.3 -** Categorizes to 10 objects into groups by attributes such as size, color, or shape and count how many in each category. **K.G.B.5-** Models shapes with tools (sticks, clay, etc) and begin to draw them.	K.CC.A.3 K.CC.B.4 K.CC.B.4.a, K.CC.B.4.b K.CC.B.4.c, K.CC.B.5 K.G.A.1, K.G.A.2	K.CC.C.6 K.CC.C.7 K.OA.A.4 K.OA.A.5 K.NBT.A.1 K.MD.A.1 K.MD.A.2 K.G.A.3 K.G.B.6

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Reporting Period 2

Instructional Days: 84.5	**LearnZillion Units:** 8-15 (81 lessons available)

February	**Unit 8 - Describing and comparing measurable attributes** Ideas to compact:	
	Lessons: 9 (8+assessment) K.MD.A.1+ K.MD.A.2+ K.MD.B.3 MP3, MP5	1. A single object may have multiple attributes that are measurable. 2. Objects can be compared based on an attribute they share. 3. An object's' length remains the same regardless of its position relative to another object.
February	**Unit 9 - Comparing numbers**	
	Lessons: 11 (10+assessment) K.CC.C.6+ K.CC.C.7+ MP2	1. Sets of objects can be compared using the language greater than, less than, or equal to. 2. Matching and counting strategies can be used to compare quantities (up to ten) of two groups. 3. Written numerals can be compared using the language greater than, less than, or equal to.
March	**Unit 10 - Understanding addition and subtraction within 10**	
	Lessons: 11 (10+assessment) K.OA.A.1 K.OA.A.2 K.OA.A.3 MP4, MP5, MP6	1. There is more than one pair of addends that can be combined to make a total. 2. A total can be taken apart into more than one pair of addends. 3. We can solve real-world addition and subtraction problems using objects or drawings.
April	**Unit 11 - Classifying two- and three-dimensional shapes** Ideas to compact:	
	Lessons: 11 (10+assessment) K.MD.B.3 K.G.A.3+ K.G.B.4+ MP3, MP7	1. Geometric figures can be sorted and counted to identify how many are in a category. 2. Two- and three- dimensional shapes can be identified and described as flat or solid. 3. Shapes can be analyzed and compared by their number of sides and "corners" (vertices) and other measurable attributes.
April	**Unit 12 - Composing ten**	
	Lessons: 11 (10+assessment) K.OA.A.4+ MP7, MP8	1. For any number 1 to 9, there is one number we can add to it to get 10. 2. Every number 1 to 9 has a partner such that the two numbers can be composed to make 10.

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		3. The value of ten does not change regardless of how it is composed.
May	**Unit 13 - Counting to 100 by tens and ones**	
	Lessons: 6 (5+assessment) K.CC.A.1 K.CC.A.2 MP7, MP8	1. The number of objects in a collection is the same no matter how it is counted.
		2. We can count larger sets of objects by grouping, then counting by tens.
		3. The number sequence remains the same regardless of the starting number.
May	**Unit 14 - Developing foundations of place value**	
	Lessons: 11 (10+assessment) K.NBT.A.1+ MP4, MP7	1. The numbers 11-19 are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.
		2. The numbers 11-19 are the sum of 10 ones and 1, 2, 3, 4, 5, 6, 7, 8, or 9 ones.
		3. We can count on from 10 by 1, 2, 3, 4, 5, 6, 7, 8, or 9 to reach the numbers 11-19.
End of May - June	**Unit 15 - Modeling and composing shapes** Ideas to compact:	
	Lessons: 11 (10+assessment) K.G.B.5 K.G.B.6+ MP4, MP6	1. We can model shapes in the environment by building them from components (toothpicks, clay, etc.).
		2. We can draw shapes to model shapes in the environment.
		3. You can compose simple shapes to form larger shapes (two triangles can be joined full side to full side to form a rectangle).
optional	**Unit 16 (optional) - Solving problems and demonstrating fluency within 5** Optional Focus Lessons:	
	Lessons: 11 (10+assessment) K.OA.A.2 K.OA.A.5+ MP1, MP8	1. The meaning of addition does not change when different strategies are used.
		2. The meaning of subtraction does not change when different strategies are used.
		3. Fluently adding and subtracting can help us solve math problems more efficiently.

NOTE K.OA.A.5 - Add/Sub within 5: Fluency is built all year within lessons, during Number Talks and through game play. Focus on efficiency and flexibility that lead to accuracy is key for this standard. While many are ready, please note that students are not required to write equations until Grade 1.

Developing Math Fluency with Kindergarten Number Talks

Overview: Number Talks supports the development of students' procedural fluency from conceptual understanding. This instructional routine takes about 5-15 minutes. The routine structures classroom conversation around purposefully ordered computation problems that students solve mentally.

Recommended Number Talk Sets
Introduction (Establishing expectations for Number Talks)
Fluency with Number 3 • Dot Images • Rekenreks Introduction • Five-Frames
Fall (subitizing)
Fluency with Numbers 4-5 • Dot Images • Rekenreks • Five-Frames
Winter (decomposing groups)
Fluency with Numbers 4-8 • Ten-Frames 4-8 • Dot Images 6-8 • Rekenreks 6-8 • Ten-Frames 6-8
Spring (making 10 & fluency to 5)
Fluency with Numbers 9-10 • Dot Images • Rekenreks • Ten-Frames

Common Tools:
- Dots
- Rekenreks
- Five/Ten Frames
- Open Number line
- Hundreds Chart
- Cubes, Tiles, Counters
- Real-life Context

General Prompts:
- I agree with _____ because _____.
- I do not understand _____. Can you explain this again?
- I disagree with _____ because _____.
- How did you decide to _____?

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Practicing Math Fluency with Kindergarten Games

Purpose: Games provide additional practice to develop fluencies and opportunity to encourage a positive relationship with mathematics and peers. While teachers have identified 2-4 games per unit to support Operations and Algebraic Thinking, other game resources have been included in a Grade-level Games Binder. Teachers are encouraged to enhance standards with other materials or activities at their discretion. Game structures such as partners, small group, or differentiated review rely on a solid foundation of positive mathematical mindsets and clear community expectations. Unit 0 provides many instructional strategies to enhance such an environment.

Unit	Games in LZ	Supplemental Game	Source	Standard(s) for Supplemental Games
Unit 1	Build a Tower (to 5) Build a Tower (to 10) Fill the Board	Build It Build Ten	Investigations Other Resource	K.CC - 1, 4abc, 5 K.CC - A/B, K.OA , K.NBT.1
Unit 2	Count the Cubes Partner Cubes How Many? Racing Numerals Ten Frame Bingo Count the Chips Matching Sets	Roll and Record Collect Ten Together Build It Compare	Investigations Investigations Investigations Investigations	K.CC - 1, 3, 4abc, 5 K.CC - 1, 4abc, 5 K.CC - 1, 4abc, 5, 6, 7
Unit 3*	Spill a Shape Domino Game Three in a Row	Attribute Block Match Up	Investigations	Coming
Unit 4	Mystery Number Adding Dice Race to Candy Mountain	Compare Build It Built It, Change It	Investigations Investigations Investigations	K.CC - 1, 4abc, 5, 6, 7 K.CC - 1, 4abc, 5 K.CC - 6, 7
Unit 5*	Shape Picture-Name-Attributes Match Shape Bingo Where's Atty? Target Shape Game Shape-Object Picture Match Spin and Build	Attribute Block Match Up	Investigations	Coming
Unit 6	Pennies Up! Pennies Down! Busy Bugs! Lily Pad Leap! Pennies Up! Pennies Down! Capture the Flags! Bowling Game	Toss the Chips Racing Bears Double Compare One More, One Fewer	Investigations Investigations Investigations Investigations	K.CC.3, K.OA.3 K.CC.6, K.OA.1 K.OA.2
Unit 7*	Turn and Count			

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	Partner Pick Teacher Pick Number Roll Counting Dots Match How Many Count and Check Count and Build			
Unit 8*	Scavenger Hunt!	Towers of 10	Investigations	Coming
Unit 9	Build and Compare Towers Who Has More Dots? Spin and Compare Compare and Sort Compare and Sort with Dot Cards Guess My Number Spin, Build and Compare--Who Has Less? Number Compare: Who Has More?	Compare (Shake and Spill) Compare	Other Resource Investigations	K.CC - A/B/C K.CC - 1, 4abc, 5, 6, 7
Unit 10	LadyBug Dot Game Roll it and Add it Bears in the House Shake and Make Munching Monster	More! Build It, Change It Collect 15 Together Double Compare	Other Resource Investigations Investigations Investigations	K.CC - A/B/C, K.NBT.1 K.CC - 6, 7 K.CC.6, K.OA.1
Unit 11	Shape Sort	Attribute Block Match Up		Coming
Unit 12	Cut out horses to use as manipulatives Counter Toss Ten Fish Pennies Up! Pennies Down!: Make 10 Version 10 Trains Fish in a Cave 10 Concentration	Toss the Chips Racing Bears Roll and Record 3 Build It, Change It Tens Go Fish	Investigations Investigations Investigations Investigations Other Resource	K.CC.3, K.OA.3 K.CC - 3, 4 K.OA - 1, 5 K.CC - 6, 7 K.CC - A/B, K.OA
Unit 13	Roll, Flip and Count	Anything But 10!	Other Resource	K.CC - A/B, K.OA , K.NBT.1
Unit 14*	Adding Baseballs Match It Up Teen Number Grab The Parking Lot Game	Greater than, less than, equal to	Other Resource	K.CC - A/B/C, K.OA
Unit 15*	Shape Hunt	Fill the Hexagons	Investigations	K.G.6

* No additional aligned games for this unit at this time. Please select from the Games Resources binder to support prior knowledge.

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