Ganado Unified School District
(Mathematics/Kindergarten)

PACING Guide SY 2021-2022

Timeline/ Resources	AZ College and Career Readiness Standard	Essential Question (HESS Matrix)	Learning Goal	Vocabulary (Content/Academic)
1st Quarter (August 3, 2021 to October 7, 2021)				
Used McGraw-Hill *My Math* Curriculum *(will be updated when New Curriculum becomes available)* **<u>Volume 1</u>** ***Chapter 1*** *Lesson 1 to 5* *Lesson 6 to 8* *Lesson 9* *Lesson 10 to 11*	K.CC.A.3 Write numbers from 0 to 20. Represent a number of objects with a written numeral 0 to 20 (with 0 representing a count of no objects). K.CC.C6 Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group. (Include groups with up to ten objects.)	**Chapter 1** How do we show how many? **Standards for Mathematical Practices** **K.MP.1** Make sense of problems and persevere in solving them. **K.MP.2** Reason abstractly and quantitatively. **K.MP.3** Construct viable arguments and critique the reasoning of others. **K.MP.4** Model with mathematics. **K.MP.5** Use appropriate tools strategically. **K.MP.6** Attend to precision.	K.CC.A.3 I can write the numbers 0 to 20. I can write a number to show how many are in a set of objects. K.CC.C6 I can identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group. (Include groups with up to ten objects.)	**Chapter 1** count number one two three four five zero greater than less than equal to

<u>Volume 1</u> ***Chapter 2*** *Lesson 1 to 8* *Lesson 9* *Lesson 10 to 11*	K.CC.B.4 Understand the relationship between numbers and quantities; connect counting to cardinality. K.CC.B.4a When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object (one-to-one correspondence). K.CC.B.4b Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted (cardinality). K.CC.B.4c Understand that each successive number name refers to a quantity that is one larger (hierarchical inclusion). K.CC.B.5 Count to answer questions about "How many?" when 20 or fewer objects are arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1 to 20, count out that many objects. K.CC.C7 Compare two numbers between 0 to 10 presented as written numerals.	**Chapter 2** What do numbers tell me? **Standards for Mathematical Practices** **K.MP1** Make sense of problems and persevere in solving them. **K.MP.2** Reason abstractly and quantitatively. **K.MP.3** Construct viable arguments and critique the reasoning of others. **K.MP.4** Model with mathematics. **K.MP.6** Attend to precision. **K.MP.7** Look for and make use of structure.	K.CC.B.4 I can understand the relationship between numbers and quantities; connect counting to cardinality. K.CC.B.4a. I can count objects one to one by one and say the number names in order, one-to-one correspondence. K.CC.B.4b I can understand that the last number name said tells the number of objects counted. K.CC.B.4c I can understand that each successive number name refers to a quantity that is one larger (hierarchical inclusion). K.CC.B.5 I can count to answer questions about "How many?" when 20 or fewer objects are arranged in any order or as many as 10 things in a scattered configuration; given a number from 1 to 20, count out that many objects. K.CC.C7 I can compare two numbers between 0 to 10 presented as written numerals.	**Chapter 2** eight nine seven six ten ordinal number

Volume 2 ***Chapter 10*** *Lesson 1 to 4*	K.G.A.1 Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.	**Chapter 10** How do I identify positions? **Standards for Mathematical Practices** **K.MP.1** Make sense of problems and persevere in solving them. **K.MP.3** Construct viable arguments and critique the reasoning of others. **K.MP.4** Model with mathematics. **K.MP.6** Attend to precision.	K.G.A.1 I can describe where objects are located.	**Chapter 10** above behind below beside in front of next to
Volume 2 ***Chapter 8*** *Lesson 1 to 6*	K.MD.A.1 Describe measurable attributes of a single object (e.g., length and weight). K.MD.A.2 Directly compare two objects with a measurable attribute in common to see which object has "more of" or "less of" the attribute, and describe the difference (e.g., directly compare the length of 10 cubes to a pencil and describe one as longer or shorter).	**Chapter 8** How do I describe and compare objects by length, height, and weight? **Standards for Mathematical Practices** **K.MP.1** Make sense of problems and persevere in solving them. **K.MP.3** Construct viable arguments and critique the reasoning of others. **K.MP.4** Model with mathematics. **K.MP.5** Use appropriate tools strategically. **K.MP.6** Attend to precision.	K.MD.A.1 I can describe an object's length and/or weight. K.MD.A.2 I can use words to compare two objects.	**Chapter 8** capacity heavier height holds less holds more length lighter longer shorter taller weight

2nd Quarter (October 12, 2021 to December 17, 2021)				
Volume 2 ***Chapter 11*** *Lesson 1 to 9*	K.G.A.2 Correctly name shapes regardless of their orientations or overall size. (e.g., circle, triangle, square, rectangle, rhombus, trapezoid, hexagon, cube, cone, cylinder, sphere.) K.G.A.3 Identify shapes as two-dimensional (lying in a plane, flat) or three-dimensional (solid). K.G.B.4 Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe similarities, differences, parts and other attributes. (e.g., numbers of sides and vertices/corners), and other attributes (e.g., having sides of equal length).	**Chapter 11** How can I compare shapes? **Standards for Mathematical Practices** **K.MP.1** Make sense of problems and persevere in solving them. **K.MP.3** Construct viable arguments and critique the reasoning of others. **K.MP.4** Model with mathematics. **K.MP.5** Use appropriate tools strategically. **K.MP.6** Attend to precision.	K.G.A.2 I can name shapes. K.G.A.3 I can describe shapes as flat or solid. K.G.B.4 I can describe how flat and solid shapes look.	**Chapter 11** circle hexagon side rectangle round square straight triangle vertex
Volume 2 ***Chapter 12*** *Lesson 1 to 5*	K.G.B.5 Model shapes in the world by building shapes from components (e.g., use sticks and clay balls) and drawing shapes. K.G.B.6 Use simple shapes to form composite shapes. *For example, "Can you join these two triangles with full sides touching to make a rectangle?"*	**Chapter 12** How do I identify and compare three-dimensional shapes? **Standards for Mathematical Practices** **K.MP.1** Make sense of problems and persevere in solving them. **K.MP.3** Construct viable arguments and critique the reasoning of others. **K.MP.4** Model with mathematics. **K.MP.6** Attend to precision. **K.MP.7** Look for and make use of structure.	K.G.B.5 I can model shapes by building or drawing them. K.G.B.6 I can put together smaller shapes to make bigger shapes.	**Chapter 12** cone cube cylinder roll slide sphere stack

Volume 2 ***Chapter 9*** *Lesson 1 to 5*	K.MD.B.3 Classify objects into given categories; count the number of objects in each category and sort the categories by count. (Note: limit category counts to be less than or equal to 10.)	**Chapter 9** How do I sort objects? **Standards for Mathematical Practices** **K.MP.1** Make sense of problems and persevere in solving them. **K.MP.2** Reason abstractly and quantitatively. **K.MP.3** Construct viable arguments and critique the reasoning of others. **K.MP.4** Model with mathematics.	K.MD.B.3 I can sort and count objects into groups.	**Chapter 9** alike different shape size sort
Volume 1 ***Chapter 3*** *Lesson 1 to 10*	K.CC.A.1 Count to 100 by ones and by tens. K.CC.A.2 Count forward from a given number other than one, within the known sequence (e.g., "Starting at the number 5, count up to 11."). K.CC.A.3 Write numbers from 0 to 20. Represent a number of objects with a written numeral 0 to 20 (with 0 representing a count of no objects). K.CC.B.4 Understand the relationship between numbers and quantities; connect counting to cardinality.	**Chapter 3** How can I show numbers beyond 10? **Standards for Mathematical Practices** **K.MP.1** Make sense of problems and persevere in solving them. **K.MP.2** Reason abstractly and quantitatively. **K.MP.3** Construct viable arguments and critique the reasoning of others. **K.MP.4** Model with mathematics.	K.CC.A.1 I can count to 100 by ones and by tens. K.CC.A.2 I can count forward from a given number other than one, within the known sequence (e.g., "starting at the number 5, count up to 11.") K.CC.A.3 I can write the numbers 0 to 20. I can write a number to show how many are in a set of objects. K.CC.B.4 I can understand the relationship between numbers and quantities; connect counting to cardinality.	**Chapter 3** eighteen eleven fifteen fourteen nineteen seventeen sixteen twelve twenty

	K.CC.B.4a When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object (one-to-one correspondence). K.CC.B.4b Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted (cardinality). K.CC.B.4c Understand that each successive number name refers to a quantity that is one larger (hierarchical inclusion). K.CC.B.5 Count to answer questions about "How many?" when 20 or fewer objects are arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1 to 20, count out that many objects.		K.CC.B.4a I can count objects one by one and say the number names in order. K.CC.B.4b I can understand that the last number name said tells the number of objects counted. K.CC.B.4c I know that as I count, the next number is one more. K.CC.B.5 I can count to answer questions about "How many?"	

3rd Quarter (January 3, 2022 – March 11, 2022)				
Volume 1 ***Chapter 4*** *Lesson 1 to 9*	K.OA.A.1 Represent addition and subtraction concretely. *See Table 1.* K.OA.A.3 Decompose numbers less than or equal to 10 into pairs in more than one way (e.g., using fingers, objects, symbols, tally marks, drawings, expressions).	**Chapter 4** How can we show a number in other ways? **Standards for Mathematical Practices** **K.MP.1** Make sense of problems and persevere in solving them. **K.MP.2** Reason abstractly and quantitatively. **K.MP.3** Construct viable arguments and critique the reasoning of others. **K.MP.4** Model with mathematics. **K.MP.5** Use appropriate tools strategically. **K.MP.6** Attend to precision. **K.MP.7** Look for and make use of structure.	K.OA.A.1 I can add and subtract in many ways. K.OA.A.3 I can show the different ways to make a number that is less than or equal to 10.	**Chapter 4** All vocabulary are review words
Volume 1 ***Chapter 5*** *Lesson 1 to 7*	K.OA.A.4 For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.	**Chapter 5** How can I use objects to add? **Standards for Mathematical Practices** **K.MP.1** Make sense of problems and persevere in solving them. **K.MP.2** Reason abstractly and quantitatively. **K.MP.3** Construct viable arguments and critique the reasoning of others. **K.MP.4** Model with mathematics.	K.OA.A.4 I can add numbers to make 10.	**Chapter 5** add equals sign (=) in all join plus sign (+)

	K.OA.A.2 Solve addition and subtraction word problems and add and subtract within 10. *See Table 1.* K.OA.A.5 Fluently add and subtract within 10.	**K.MP.5** Use appropriate tools strategically. **K.MP.6** Attend to precision. **K.MP.7** Look for and make use of structure.	K.OA.A.2 I can solve addition and subtraction word problems. K.OA. A.5 I can add and subtract within 10.	

4th Quarter (March 21, 2022 – May 26, 2022)				
Volume 1 ***Chapter 6*** *Lesson 1 to 7*	K.OA.A.2 Solve addition and subtraction word problems and add and subtract within 10. *See Table 1.* K.OA.A.5 Fluently add and subtract within 5.	**Chapter 6** How can I use objects to subtract to subtract? **Standards for Mathematical Practices** **K.MP.1** Make sense of problems and persevere in solving them. **K.MP.2** Reason abstractly and quantitatively. **K.MP.3** Construct viable arguments and critique the reasoning of others. **K.MP.4** Model with mathematics. **K.MP.5** Use appropriate tools strategically. **K.MP.6** Attend to precision.	K.OA.A.2 I can solve addition and subtraction word problems. K.OA. A.5 I can add and subtract within 5.	**Chapter 6** are left minus sign (-) subtract take away
Volume 1 ***Chapter 7*** *Lesson 1 to 5*	K.NBT.A.1 Compose and decompose numbers from 11 to 19 into ten ones and additional ones by using objects, drawings, and/or equations. Understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones (e.g., 18 = 10 + 8). K.NBT.B.2 Demonstrate understanding of addition and subtraction within 10 using place value. *See Table 1.*	**Chapter 7** How do we show numbers 11 to 19 in another way? **Standards for Mathematical Practices** **K.MP.1** Make sense of problems and persevere in solving them. **K.MP.2** Reason abstractly and quantitatively. **K.MP.3** Construct viable arguments and critique the reasoning of others. **K.MP.4** Model with mathematics. **K.MP.8** Look for and express regularity in repeated reasoning.	KNBT.A.1. I can show how the numbers 11 to 19 are made up of tens and ones.	**Chapter 7** All vocabulary are review words.

Standards for Mathematical Practice	
K.MP.1	**Make sense of problems and persevere in solving them.** Mathematically proficient students explain to themselves the meaning of a problem, look for entry points to begin work on the problem, and plan and choose a solution pathway. While engaging in productive struggle to solve a problem, they continually ask themselves, “Does this make sense?" to monitor and evaluate their progress and change course if necessary. Once they have a solution, they look back at the problem to determine if the solution is reasonable and accurate. Mathematically proficient students check their solutions to problems using different methods, approaches, or representations. They also compare and understand different representations of problems and different solution pathways, both their own and those of others.
K.MP.2	**Reason abstractly and quantitatively.** Mathematically proficient students make sense of quantities and their relationships in problem situations. Students can contextualize and decontextualize problems involving quantitative relationships. They contextualize quantities, operations, and expressions by describing a corresponding situation. They decontextualize a situation by representing it symbolically. As they manipulate the symbols, they can pause as needed to access the meaning of the numbers, the units, and the operations that the symbols represent. Mathematically proficient students know and flexibly use different properties of operations, numbers, and geometric objects and when appropriate they interpret their solution in terms of the context.
K.MP.3	**Construct viable arguments and critique the reasoning of others.** Mathematically proficient students construct mathematical arguments (explain the reasoning underlying a strategy, solution, or conjecture) using concrete, pictorial, or symbolic referents. Arguments may also rely on definitions, assumptions, previously established results, properties, or structures. Mathematically proficient students make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. Mathematically proficient students present their arguments in the form of representations, actions on those representations, and explanations in words (oral or written). Students critique others by affirming or questioning the reasoning of others. They can listen to or read the reasoning of others, decide whether it makes sense, ask questions to clarify or improve the reasoning, and validate or build on it. Mathematically proficient students can communicate their arguments, compare them to others, and reconsider their own arguments in response to the critiques of others.

K.MP.4	**Model with mathematics.** Mathematically proficient students apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. When given a problem in a contextual situation, they identify the mathematical elements of a situation and create a mathematical model that represents those mathematical elements and the relationships among them. Mathematically proficient students use their model to analyze the relationships and draw conclusions. They interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
K.MP.5	**Use appropriate tools strategically.** Mathematically proficient students consider available tools when solving a mathematical problem. They choose tools that are relevant and useful to the problem at hand. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful; recognizing both the insight to be gained and their limitations. Students deepen their understanding of mathematical concepts when using tools to visualize, explore, compare, communicate, make and test predictions, and understand the thinking of others.
K.MP.6	**Attend to precision.** Mathematically proficient students clearly communicate to others using appropriate mathematical terminology, and craft explanations that convey their reasoning. When making mathematical arguments about a solution, strategy, or conjecture, they describe mathematical relationships and connect their words clearly to their representations. Mathematically proficient students understand meanings of symbols used in mathematics, calculate accurately and efficiently, label quantities appropriately, and record their work clearly and concisely.
K.MP.7	**Look for and make use of structure.** Mathematically proficient students use structure and patterns to assist in making connections among mathematical ideas or concepts when making sense of mathematics. Students recognize and apply general mathematical rules to complex situations. They are able to compose and decompose mathematical ideas and notations into familiar relationships. Mathematically proficient students manage their own progress, stepping back for an overview and shifting perspective when needed.
K.MP.8	**Look for and express regularity in repeated reasoning.** Mathematically proficient students look for and describe regularities as they solve multiple related problems. They formulate conjectures about what they notice and communicate observations with precision. While solving problems, students maintain oversight of the process and continually evaluate the reasonableness of their results. This informs and strengthens their understanding of the structure of mathematics which leads to fluency.

(Arizona Mathematics Standards December 2016, Arizona Department of Education)