

► Kindergarten Unit 3: Numbers to Ten

Big Conceptual Idea: [K-5 Progression on Counting and Cardinality and Operations and Algebraic Thinking](#) (pp. 1-11)

Read the Bridges [Unit Overview/Introduction for Unit 3 pp. i-vi](#). Also read each [Module Overview](#) for the current week's sessions, and the current [Session Summary](#) along with details for the teaching of each session as you work through Unit 3. These Introduction/Overview/Summary sections provide focus, clarity, vocabulary, definitions, and examples for the "big mathematical ideas and understandings" critical to Kindergarten. This information will support your professional decision-making within the Sessions and Modules as needed.

<p>Mathematical Background: Read Bridges Unit 3 Overview and Introduction (pp. i-vi)</p>	<p>Unit Essential Question for the Teacher: How will I watch for and support the development of relational understandings of mathematics, particularly as we begin to focus on the part/whole relationships of combinations within 5?</p>
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<p>Unit 3 Bikes and Bugs: Double, Add & Subtract 20 sessions over 19 days A/D/E: 0 days NVACS Focus Domains: CC-OA Total Days: ~19</p>
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[Kindergarten Curriculum Pacing Framework: Balanced Calendar](#)

Instructional note:

Throughout **Unit 1 and Unit 2**, a positive, risk free environment for your students was established. Routines and patterns of engagement that support student construction of relational mathematical understandings, through meaningful and fun interactions within the instructional materials, have been set in place (Van de Walle, Lovin, Karp, & Bay-Williams, 2014). The Sessions in **Unit 3** will continue to focus attention on the integration of the counting sequence, one-to-one correspondence, cardinality, subitizing, hierarchical inclusion, etc. They will now also focus on **relationships** and **structures** within this early number understanding. Van de Walle et al., (2014) quote Howden (1989) describing *number sense* as a "good intuition about numbers and their relationships. It develops gradually as a result of exploring numbers, visualizing them in a variety of contexts, and relating them in ways that are not limited by traditional algorithms" (p. 11).

Unit 3 will introduce the idea of equivalence as well as comparing and ordering numbers from 1-10. This Unit's work, however, is not memorization and fast fact recall of these number patterns and combinations. Students visualizing the relationship of the numbers within these various interactions is key. Fluency is defined by the Nevada Academic Content Standards (NVACS) as, "skill in carrying out procedures flexibly, accurately, efficiently, and appropriately" (2010, p. 6). Intentional support and child-watching for the development of **flexible relational understanding** of number is the intention in Unit 3 and in Mathematical Practices 7 and 8 (NVACS, 2010, p. 8). Continue to use the instructional materials to engage in authentic conversations around solving meaningful problems in real world contexts. Also, use the manipulatives and the *Work Place* games as support for students to visualize, work out, demonstrate, explain, and practice their understanding of the relationships and the connections within the mathematics.

The mathematics content of Unit 3:

Children construct understandings in connected and integrated ways, not as isolated, individual pieces. Therefore, continually ask students to explain how they are problem solving ("How did you know?", "What made you think that?", etc.) so you can make explicit the connections students are already making from previous learning, strengthen the synaptic connections being constructed, and encourage the continuance of this sense-making behavior (NVACS, 2010, p. 6).

- **Support and instruct** to the development of the new **big mathematical ideas** of:
 - **Part/whole relations** – Seeing numbers as being made of two or more parts. A whole can be made up of various parts. Example: $8 = 5+3$; $8 = 2+2+4$.
 - **Doubles** – When an addend is repeated (E.g. $4 + 4$, $3 + 3$).
- **Watch for** students' attempts at thinking about and using these new **strategic behaviors/strategies** to demonstrate their emerging understandings of the big mathematical ideas:
 - **Skip counting** – counting forward or backward by a number other than 1. (E.g. counting by 2s, 5s, 10s).
 - **Counting backward- Counting down from an indicated number** (E.g. 5,4,3,2,1).

Over time, with supportive and scaffolded instruction and interactions, students employ more efficient and effective use of strategic behavior leading to and confirming deeper and more expanded understandings. Intentionality with the context and range of numbers students work with supports this expanding number sense development.

On-going Enrichment:

- Continue noting the [Skills Across the Grade Level](#) chart in the Introduction section (Unit 3 p. iv). K.CC.4a is secure to 10 by the end of this Unit. The details of this chart are important for those day-to-day professional instructional decisions you have to make within each Session as to what discussions or activities to extend or cut short or emphasize or skip or, etc.
- Expect all students to engage in the math.

- For specific help or ideas for any Unit Module or *Number Corner* routine the best place to look first is on the Educator Site under the Resources tab. Click on the numbers to the right of any particular Module or Number Corner month and it will give you specific supports and answers to many questions. <https://bridges.mathlearningcenter.org/user>
- Key Questions for *Number Corner* routines are a great resource for going deeper into the mathematical content. They are on this link under the Resources tab – *Number Corner* – November. <https://bridges.mathlearningcenter.org/user>
- Consistent motor strokes and gestures, using words and actions together, support student understanding (E.g. for 5 - sweep across, for 10 - circle around).

Essential Academic Vocabulary		
Use these words consistently during instruction		
Essential Academic Vocabulary: (first time explicitly taught) *indicates Word Resource Cards are available in the materials		Review Academic Vocabulary: (Vocabulary explicitly taught in previous Units or Number Corner)
double	equal*	zero, one*, two, three, four, circle*
even/odd	equation*	five, six, seven, eight, nine, circle*
subtraction	longer than/shorter than	ten
subtract*	less*/more*	number*
addition		less than*/greater than*
add*		compare*

Additional terminology that students may need support with: backward/forward, same/different, in all, ten-frame, bottom/top, numeral, alike, Venn diagram, plus, symbol, strategies, minus*, order

Standards listed in **bold** indicate a focus of the lesson.

NVACS (Content and Practices)	Mathematical Development of the Big Idea	Instructional Clarifications & Considerations
Module 1- Session 1: Bicycle Wheels, Part 1		
<p>K.CC.1 K.CC.4a K.CC.4b K.CC.5 K.OA.1</p> <p>MP.1 MP.4</p>	<p>Access Prior Learning and Connections to Future Learning:</p> <ul style="list-style-type: none"> • Represent addition with objects, fingers, verbal explanations, expressions and equations is revisited in Units 2,4,6,7, and 8. Note: Students begin writing equations to represent quantities and to represent story problem situations and their solutions. The process of representing a mathematical situation using numbers and symbols is a key element to the study of algebra. • Counting backwards from any number in the range of 10 to 1 reappears in Units 4 & 5. <p>Beginning with the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> • recognizing repeated patterns (grouping) <p>Developing:</p> <ul style="list-style-type: none"> • understanding cardinality • subitizing 	<p>Guiding Questions:</p> <ul style="list-style-type: none"> • How can I use a ten frame to model the wheels on a bicycle? • How can I use a ten frame to model a real-world situation? • How many ways can I show two and four on a ten frame? <p>Instructional Notes:</p> <ul style="list-style-type: none"> • Visual models are the ten-frame and cubes. • Students attach quantity to counting by 2's and doubles; repeated pattern of 2's and odd/even is introduced to support K.OA. <p>Literature Connections:</p> <ul style="list-style-type: none"> • <i>Two of Everything</i> by Lil Toy Hong - have students make predictions about what will happen. Discuss what happens when something is doubled. <p>Number Corner Connections:</p> <ul style="list-style-type: none"> • Dec. – May <i>Number Corner</i> months revisit representing addition in various ways. Counting backwards from any number in the range of 10 to 1 is an introductory skill. It continues in all months on <i>Number Corner</i>. <p>Writing and Enrichment:</p> <ul style="list-style-type: none"> • See Assessment Guide option in sidebar note p. 7. • There are 4 bicycles in front of the school. How many tires are there all together on the bicycles? Show and tell how you know. • Looks for doubles in the classroom and school (for example two equal rows of student artwork on a bulletin board) and record in math journal. • Consider constructing a word card with a the definition and drawing of "double", either individually or whole group or 4-square page in journals (definition, drawing, synonym, and sentence). • Consider a "twin day" for spirit day.
Module 1- Session 2: Bicycle Wheels, Part 2		
<p>K.CC.1 K.CC.4 K.CC.5 K.OA.1 K.OA.3</p>	<p>Access Prior Learning and Connections to Future Learning:</p> <ul style="list-style-type: none"> • Count by 2s to 20 supports 1.NBT and is for exposure only. 	<p>Guiding Questions:</p> <ul style="list-style-type: none"> • Why is this tool called a double ten frame? • How can I use a number rack to model the wheels on a bicycle? • How can I use a number rack to model a real-world situation? • Can patterns be found in numbers? <p style="text-align: center;"><i>-continues on next page-</i></p>

<p>MP.1 MP.4</p>	<p>Beginning with the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> recognizing repeated patterns (grouping) <p>Developing:</p> <ul style="list-style-type: none"> understanding cardinality subitizing 	<p>Instructional Notes:</p> <ul style="list-style-type: none"> Visual models are the ten-frame pair-wise display cards, ten-frame counting mats, and the Number Rack. Students see the repeated pattern of 2's and odd/even to support K.OA. Consider using the number rack digital display: https://www.mathlearningcenter.org/resources/apps/number-rack Consider using the current classroom resources, such as the <i>Number Corner</i> student created number line or the number line pocket chart, instead of writing the numbers on the white board for this session. <p>Literature Connections:</p> <ul style="list-style-type: none"> <i>What Comes in 2s, 3s, and 4s</i> by Suzanne Aker <p>Writing and Enrichment:</p> <ul style="list-style-type: none"> Consider recording the doubles found by students onto a class bulletin board or in a class book (see p. 12). <i>Home Connection</i> p. 13 and <i>Home Connection</i> tab pp. 47-54.
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Module 1- Session 3: Growing Patterns: These Bikes Have Two Wheels

<p>K.OA.1 K.G.5 MP.1 MP.4</p>	<p>Access Prior Learning and Connections to Future Learning:</p> <ul style="list-style-type: none"> Represent addition with objects, fingers, verbal explanations, expressions and equations is revisited in Units 2, 4, 6, 7, and 8. <p>Beginning with the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> recognizing repeated patterns (grouping) Skip counting <p>Developing:</p> <ul style="list-style-type: none"> understanding cardinality subitizing 	<p>Guiding Questions:</p> <ul style="list-style-type: none"> How can you model a math problem using objects and pictures? <p>Instructional Notes:</p> <ul style="list-style-type: none"> Visual models are bicycle drawings. <p>Literature Connections:</p> <ul style="list-style-type: none"> <i>What Do Wheels Do All Day?</i> By April Jones Prince <i>Duck on a Bike</i> by David Shannon <p>Number Corner Connections:</p> <ul style="list-style-type: none"> Dec. – May <i>Number Corner</i> months revisit representing addition in various ways. <p>Writing and Enrichment:</p> <ul style="list-style-type: none"> To promote math communication, have students share their observations using speech bubbles. You might try an interactive (shared pen) writing model to record student ideas. See SUPPORT note p. 16; consider providing circle templates to support the mathematical understanding of “circle”.
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Module 1- Session 4: Grab Bag Doubles

<p>K.CC.4b K.CC.5 K.OA.1 K.OA.3 MP.1 MP.4 MP.7</p>	<p>Access Prior Learning and Connections to Future Learning:</p> <ul style="list-style-type: none"> Counting collections in different ways is a developing concept. <p>Beginning with the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> recognizing repeated patterns (grouping) <p>Developing:</p> <ul style="list-style-type: none"> understanding cardinality subitizing 	<p>Guiding Questions:</p> <ul style="list-style-type: none"> How can I find out if I have an even number of cubes? How can I prove that an amount is even? What arrangement helps me show an amount is even? Why do we use mathematical symbols? <p>Instructional Notes:</p> <ul style="list-style-type: none"> Visual models are cubes, and written numerals. Consider using the online digital display tool found on the Bridges web site (note the second page), in addition to teacher/student modeling. <p>Number Corner Connections:</p> <ul style="list-style-type: none"> Counting collections in different ways is focused on in September-December. <p>Writing and Enrichment:</p> <ul style="list-style-type: none"> Students can explore recording expression for the cube quantities both doubles and non-doubles. This is a developing concept. <p>Child Watching and Assessment:</p> <ul style="list-style-type: none"> Beat You to Ten CHECKPOINT – observe 4 students playing Beat You to Ten p. 22 and T5. Also see scoring and reteaching suggestion in the Assessment Binder, Bridges Unit Assessments tab pp. 28-29.
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Module 1- Session 5: The Bike Chart

<p>K.CC.4b K.CC.5 K.OA.1 K.OA.3</p>	<p>Access Prior Learning and Connections to Future Learning:</p> <ul style="list-style-type: none"> Count by 2s to 20 supports 1.OA. Determining whether a group of objects is odd/even by counting by 2s or pairing objects, as well as written equations are 	<p>Guiding Questions:</p> <ul style="list-style-type: none"> What is a pattern and where can you find patterns? How do patterns help you predict what comes next? <p>Instructional Notes:</p> <ul style="list-style-type: none"> Visual models are the bike chart/graph, the written numerals, and the number grid. <p style="text-align: right;"><i>-continues on next page-</i></p>
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<p>MP.1 MP.3 MP.7</p>	<p>2nd grade standards. These skills are for exposure only.</p> <p>Beginning with the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> recognizing repeated patterns (grouping) <p>Developing:</p> <ul style="list-style-type: none"> understanding cardinality subitizing 	<ul style="list-style-type: none"> Grab Bag Doubles might not be an independent workplace yet. Consider playing this game during your small group instruction instead so that you can provide prompting to arrange cubes into pairs and modeling of how to write expressions. <p>Number Corner Connections:</p> <ul style="list-style-type: none"> Consider referencing the number line work from Session 2 – Bicycle Wheels part 2 – instead of writing the numbers again. <p>Writing and Enrichment:</p> <ul style="list-style-type: none"> See Teacher Masters (p. T6) of the <i>Work Place Guides for Differentiation</i> ideas. Consider <i>Work Place Instructions</i> (T7) for game variations. <i>Home Connection</i> p. 27 and <i>Home Connection</i> tab pp. 55-56. Students can record the patterns on the number grid by coloring as the whole class did on the poster.
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Module 2- Session 1: Introducing Work Place 3B Butterfly Race

<p>K.CC.4b K.CC.5 K.OA.1 K.OA.3 K.OA.4</p> <p>MP.1 MP.2 MP.7</p>	<p>Access Prior Learning and Connections to Future Learning:</p> <ul style="list-style-type: none"> Count up 20 objects arranged in line, rectangular array or circle to answer how many is addressed in Units 4, 6, & 7. Decompose numbers less than or equal to 10 into pairs in more than one way is covered in all units. <p>Beginning with the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> identifying doubles <p>Developing:</p> <ul style="list-style-type: none"> understanding cardinality composing 	<p>Guiding Questions:</p> <ul style="list-style-type: none"> How can I find the total when I put two quantities together? (Connect to representing the number of dots with top on one hand, bottom on the other hand, and how many in all) What do quantities and number names have in common? What do number names and numerals have in common? <p>Instructional Notes:</p> <ul style="list-style-type: none"> Visual models are ten-frame pair-wise display cards, and fingers. Students connect quantities, number names, and numerals. Digital display tool link (see p. 2), Bridges web site. <p>Literature Connections:</p> <ul style="list-style-type: none"> <i>Ten Wiggly Wiggly Caterpillars</i> by Debbie Tarbett (counting backwards) <p>Number Corner Connections:</p> <ul style="list-style-type: none"> Developing - count up 20 objects arranged in line, rectangular array or circle to answer how many. Addressed in February, March and April. Decompose numbers less than or equal to 10 into pairs in more than one way is a developing concept. Months Oct-May explore this concept. <p>Writing and Enrichment:</p> <ul style="list-style-type: none"> See <i>Teacher Masters</i> (p.T1) of the <i>Work Place Guides for Differentiation</i> ideas. Number Collection Box: Show all the ways you can make _____. Students might use dots, number, tallies, objects, dominoes, number rack, and so forth. Workplace Sentence Frames link
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Module 2- Session 2: Butterfly Countdown

<p>K.CC.3 K.CC.4b K.CC.5 K.OA.1 K.OA.2 K.OA.3</p> <p>MP.1 MP.2 MP.4 MP.7</p>	<p>Access Prior Learning and Connections to Future Learning:</p> <ul style="list-style-type: none"> Counting backwards from any number in the range of 10 to 1 reappears in Units 4 & 5. Represent subtraction with objects, fingers, verbal explanations, expressions and equations is revisited in Units 4, 7, and 8. <p>Beginning with the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> composing and decomposing numbers (part/whole relations) counting backwards <p>Developing:</p> <ul style="list-style-type: none"> understanding cardinality 	<p>Guiding Questions:</p> <ul style="list-style-type: none"> How can I use models to represent addition and subtraction problems? How can I find what is left over when I take one quantity away from another? <p>Instructional Notes:</p> <ul style="list-style-type: none"> Visual model are the ten-frame and cubes. Students count backward and read numbers to 10 to support K.CC. Students explore the concepts of 1 less. <p>Literature Connections:</p> <ul style="list-style-type: none"> <i>Ten Wiggly Wiggly Caterpillars</i> by Debbie Tarbett (counting backwards) Digital display tool on Bridges web site (book w/ ten frame and cubes). <i>Spill Ten Beans</i> digital display link on the Bridges web site (see p. 2). <p>Number Corner Connections:</p> <ul style="list-style-type: none"> Counting backwards from any number in the range of 10 to 1 is an introductory skill. It continues in all months on <i>Number Corner</i>. Dec. – May <i>Number Corner</i> months revisit representing subtraction in various ways. <p>Writing and Enrichment:</p> <ul style="list-style-type: none"> Provide students with opportunities to act out the story with other students during Dramatic Play. Butterfly cut outs on sticks or butterfly puppets work well. Have students act out and retell the different pages in the Butterfly Countdown Book. See <i>Teacher Masters</i> (p. T15) of the <i>Work Place Guides for Differentiation</i> ideas. <i>Home Connection</i> p. 10 and <i>Home Connection</i> tab p. 57-62. This is language based, so Spanish version may be helpful. See link Bridges web site.
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Module 2- Session 3: Bugs: Growing & Shrinking by Ones		
<p>K.CC.4c K.OA.1 K.OA.2 K.OA.3</p> <p>MP.1 MP.7 MP.8</p>	<p>Access Prior Learning and Connections to Future Learning:</p> <ul style="list-style-type: none"> Counting backwards from any number in the range of 10 to 1 reappears in Units 4 & 5. Represent subtraction with objects, fingers, verbal explanations, expressions and equations is revisited in Units 4, 7, and 8. <p>Beginning with the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> composing and decomposing numbers (part/whole relations) <p>Developing:</p> <ul style="list-style-type: none"> understanding cardinality using 1-9 counting sequence 	<p>Guiding Questions:</p> <ul style="list-style-type: none"> How can I use models to represent addition and subtraction problems? How can I find what is left over when I take one quantity away from another? How can I find the total when I put two quantities together? What happens to the amount every time I add one? (The result is the next number in the counting sequence) What happens to the amount every time I subtract one? (The result is the previous number in the counting sequence). <p>Instructional Notes:</p> <ul style="list-style-type: none"> Visual models are cubes, and venn diagram. Digital display tool link on the Bridges web site. Students use the Venn diagram to compare “alike” and “different”. Students explore the concept of adding 1. <p>Literature Connection:</p> <ul style="list-style-type: none"> <i>Monster Musical Chairs</i> by Stuart Murphy <p>Number Corner Connections:</p> <ul style="list-style-type: none"> Counting backwards from any number in the range of 10 to 1 is an introductory skill. It continues in all months on Number Corner. Dec. – <i>May Number Corner</i> months revisit representing subtraction in various ways. <p>Writing and Enrichment:</p> <ul style="list-style-type: none"> Students can attempt looking for and expressing regularity in repeated reasoning by showing how they solved this problem: Five ants went to a picnic. One more came along. How many ants in all? There were 8 crackers. Sam ate 1. How many were left? Provide students with opportunities to act out the story with other students during Dramatic Play. Bug cut outs on sticks or bug counters work well. Have students act out and retell the different pages in the <i>Munch, Crunch, What a Lunch!</i> book.
Module 2- Session 4: The Bowl Game: Add One		
<p>K.CC.2 K.CC.4c K.CC.5 K.OA.1 K.OA.3</p> <p>MP.1 MP.7 MP.8</p>	<p>Access Prior Learning and Connections to Future Learning:</p> <ul style="list-style-type: none"> Represent addition with objects, fingers, verbal explanations, expressions and equations is revisited in Units 2, 4, 6, 7, and 8. <p>Beginning with the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> composing and decomposing numbers (part/whole relations) <p>Developing:</p> <ul style="list-style-type: none"> understanding cardinality using 1-9 counting sequence 	<p>Guiding Questions:</p> <ul style="list-style-type: none"> How many are in the bowl now? How do you know? What happens to the amount every time I add one? (The result is the next number in the counting sequence.) <p>Instructional Notes:</p> <ul style="list-style-type: none"> Visual models are cubes. Note – you may need more trains of cubes and bowls than suggested for the Session. <p>Number Corner Connections:</p> <ul style="list-style-type: none"> Dec. – <i>May Number Corner</i> months revisit representing addition in various ways. <p>Writing and Enrichment:</p> <ul style="list-style-type: none"> See p. 17 for CHALLENGE and SUPPORT ideas for children needed more support or extension ideas.
Module 2- Session 5: The Bowl Game: Subtract One		
<p>K.CC.4c K.CC.5 K.OA.1 K.OA.3</p> <p>MP.1 MP.7 MP.8</p>	<p>Access Prior Learning and Connections to Future Learning:</p> <ul style="list-style-type: none"> Counting backwards from any reappears in Units 4 & 5. Represent subtraction with objects, fingers, verbal explanations, expressions and equations is revisited in Units 4, 7, and 8. <p>Beginning with the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> composing and decomposing numbers (part/whole relations) 	<p>Guiding Questions:</p> <ul style="list-style-type: none"> How many are in the bowl now? How do you know? What happens to the amount every time I subtract one? (The result is the previous number in the counting sequence). <p>Instructional Notes:</p> <ul style="list-style-type: none"> Visual models are cubes. This Session may need to be revisited for some students in a small group. Consider using it as an additional teacher lead <i>Work Place</i>. Consider using the number rack as a variation by sliding beads and hiding using the shade. <p>Literature Connections:</p> <ul style="list-style-type: none"> <i>On the Launch Pad</i> by Michael Dahl <p style="text-align: right;"><i>-continues on next page-</i></p>

	<p>Developing:</p> <ul style="list-style-type: none"> • understanding cardinality • using 1-9 counting sequence • counting backward 	<p>Number Corner Connections:</p> <ul style="list-style-type: none"> • Counting backwards from any number in the range of 10 to 1 is an introductory skill. It continues in all months on <i>Number Corner</i>. Dec. – May <i>Number Corner</i> months revisit representing subtraction in various ways. <p>Writing and Enrichment:</p> <ul style="list-style-type: none"> • Consider creating a count down or counting up book during class interactive writing. • <i>Home Connection</i> p. 22 and <i>Home Connection</i> tab pp. 63-64.
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Module 3- Session 1: Writing Equations

<p>K.CC.2 K.CC.3 K.CC.5 K.OA.1 K.OA.2 K.OA.3</p> <p>MP.1 MP.2 MP.6</p>	<p>Access Prior Learning and Connections to Future Learning:</p> <ul style="list-style-type: none"> • Represent addition and subtraction with objects, fingers, verbal explanations, expressions and equations are revisited in Units 4, 6, 7, and 8. The commutative property is introduced. <p>Beginning with the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> • identifying doubles • writing and modeling equations • recognizing equivalence <p>Developing:</p> <ul style="list-style-type: none"> • understanding cardinality 	<p>Guiding Questions:</p> <ul style="list-style-type: none"> • What happens when I join quantities together? • Why do we use mathematical symbols? • Can you think of times in your life that you have used the words plus or equal? <p>Instructional Notes:</p> <ul style="list-style-type: none"> • Visual models are five-frames, ten-frames, dots, and fingers. • Students begin to connect quantities to written symbols and equations; meaning of the + sign (plus), the – sign (minus), and the = sign (is the same as or equals) are introduced. • Consider using the Numbers to Ten Counting Mat (five-frame side) and cubes for those students still needing support for one-to-one correspondence finger patterns, or subitizing. • The warm ups in <i>the Problems & Investigations</i>, beginning in this session, are critical practice for students. • Wait time is necessary when having students develop understanding of equations. Focus on student problem solving and not speed. <p>Literature Connections:</p> <ul style="list-style-type: none"> • <i>Animals on Board</i> by Stuart J. Murphy • <i>Five Little Ducks</i> <p>Number Corner Connections:</p> <ul style="list-style-type: none"> • Dec. – May <i>Number Corner</i> months revisit representing subtraction and addition in various ways. <p>Writing and Enrichment:</p> <ul style="list-style-type: none"> • There were 5 ducks. Some of them are yellow and some of them are brown. If only one is yellow, how many brown ducks are there if the rest are brown? If two are yellow, how many brown ducks are there if the rest are brown?
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Module 3- Session 2: Bicycle Story Problems

<p>K.CC.2 K.CC.3 K.CC.5 K.OA.1 K.OA.2 K.OA.3</p> <p>MP.1 MP.4</p>	<p>Access Prior Learning and Connections to Future Learning:</p> <p>Beginning with the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> • Identifying doubles • writing and modeling equations • recognizing equivalence <p>Developing:</p> <ul style="list-style-type: none"> • understanding cardinality 	<p>Guiding Questions:</p> <ul style="list-style-type: none"> • How can I write an equation that describes this story with numbers and symbols? • How can I represent and solve problems using objects, pictures, words and numbers? <p>Instructional Notes:</p> <ul style="list-style-type: none"> • Visual models are cubes, the number rack, and picture of a tricycle (and a bicycle if needed). • Saying equations verbally is the first step to writing equations. Allow many opportunities for students to share verbal equations. <p>Writing and Enrichment:</p> <ul style="list-style-type: none"> • Consider having students represent the story problems on paper or in a journal. • Consider having students sort the story problems by similarity and create a rule (addition and subtraction). • <i>Home Connections</i> p. 10 and <i>Home Connection</i> tab pp. 65-66.
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Module 3- Session 3: Grab Bag More or Less

<p>K.CC.2 K.CC.5 K.CC.6 K.MD.1 K.MD.2</p> <p>MP.1 MP.6</p>	<p>Access Prior Learning and Connections to Future Learning:</p> <ul style="list-style-type: none"> • Identify whether the number of objects in one group is greater than, less than or equal to the number of objects in another group is revisited in all units. <p>Beginning with the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> • understanding cardinality 	<p>Guiding Questions:</p> <ul style="list-style-type: none"> • How can I compare one quantity to another? • How much more or less is one quantity than the other? <p>Instructional Notes:</p> <ul style="list-style-type: none"> • Visual models are cubes. • After modeling with actual manipulatives consider this link: Digital display tool (p. 2) link: https://bridges.mathlearningcenter.org/digital-materials/work-place-3e-bicycle-race <p>Literature Connections:</p> <ul style="list-style-type: none"> • <i>Just Enough Carrots</i> by Stuart Murphy
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	<ul style="list-style-type: none"> recognizing magnitude – greater than/less than <p>Developing:</p> <ul style="list-style-type: none"> comparing 	<p>Number Corner Connections:</p> <ul style="list-style-type: none"> Identify whether the number of objects in one group is greater than, less than or equal to the number of objects in another group is a developing concept. It is revisited in Oct., Dec., Jan., Feb., Mar., Apr. and May.
Module 3- Session 4: Bicycle Race		
<p>K.CC.2 K.OA.1 K.OA.2</p> <p>MP.1 MP.2 MP.7</p>	<p>Access Prior Learning and Connections to Future Learning:</p> <ul style="list-style-type: none"> The main focus of this lesson is representing addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. <p>Beginning with the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> Composing and decomposing using doubles <p>Developing:</p> <ul style="list-style-type: none"> understanding cardinality 	<p>Guiding Questions:</p> <ul style="list-style-type: none"> How can I use models to represent addition and subtraction problems? How can I write an equation that describes this story with numbers and symbols? <p>Instructional Notes:</p> <ul style="list-style-type: none"> Visual models are number die, fingers, ten-frame, dominoes, and the bike chart/graph Students double the rolled number. Digital display tool link on the Bridges web site (highlight the dominoes on the bottom of the game board for student support). Note Step 8 (p. 16) for strategies for doubles - using bike chart, fingers, dominoes on game board and ten-frames. Consider providing dominoes for an additional <i>Work Place</i> (sorting by doubles, finding the missing part, determining the whole, matching to the numeral card/ten-frame cards/decks of cards). <p>Literature Connections:</p> <ul style="list-style-type: none"> <i>Dominoes Addition</i> by Lynette Long <p>Writing and Enrichment:</p> <ul style="list-style-type: none"> See <i>Teacher Masters</i> (p. T1) of the <i>Work Place Guides for Differentiation</i> ideas. See <i>Work Place</i> Instructions (p. T2) for game variations.
Module 3- Session 5: Build It To Ten!		
<p>K.CC.2 K.CC.3 K.CC.4 K.CC.5 K.OA.1 K.OA.4</p> <p>MP.1 MP.4</p>	<p>Access Prior Learning and Connections to Future Learning:</p> <p>Beginning with the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> composing using part/whole relations to 10 <p>Developing:</p> <ul style="list-style-type: none"> understanding cardinality 	<p>Guiding Questions:</p> <ul style="list-style-type: none"> Why is it important that I can build the number combinations for the number 5? 10? How can I represent and solve problems using objects, pictures, words and numbers? <p>Instructional Notes:</p> <ul style="list-style-type: none"> Visual models are numbers to ten display cards, and cubes. Students begin to connect quantities to written numerals and equations. Consider creating context for the quantities in the Session through word problems (E.g. 6 bunnies were sitting on the grass. Some more bunnies hopped there. Then there were 10 bunnies. How many bunnies hopped over to the grass?). <p>Writing and Enrichment:</p> <ul style="list-style-type: none"> See <i>Teacher Masters</i> (p. T3) of the <i>Work Place Guides for Differentiation</i> ideas. <i>Home Connection</i> p. 23 and <i>Home Connection</i> tab pp. 67-68. <p>Child Watching and Assessment:</p> <ul style="list-style-type: none"> Working With Numbers Checkpoint – assess 4 students at a time over the next few days (see p. 23 and T5. Also see scoring and reteaching suggestion in the Assessment Binder, Bridges Unit Assessments tab pp. 31-32).
Module 4- Session 1: Numbers & Ten-Frames Bingo		
<p>K.CC.2 K.CC.4c K.CC.6</p> <p>MP.1 MP.2 MP.7</p>	<p>Access Prior Learning and Connections to Future Learning:</p> <ul style="list-style-type: none"> Ordering sets of 0-10 objects and numerals from 0-10 is covered again in Unit 4. <p>Beginning with the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> matching numerals to quantity recognizing numerals subitizing using the five-structure <p>Secure:</p> <ul style="list-style-type: none"> recognizing 1-9 sequence 	<p>Guiding Questions:</p> <ul style="list-style-type: none"> How are ten-frames and numerals related? What is similar? What is different? <p>Instructional Notes:</p> <ul style="list-style-type: none"> Visual models are five-wise and pair-wise ten-frame cards, dots, and game board with written numerals. Consider also using the number rack as a substitute for the deck of cards. Digital display tool link on the Bridges web site. <p>Number Corner Connections:</p> <ul style="list-style-type: none"> Ordering sets of 0-10 objects and numerals from 0-10 is an introductory concept that is explored in December. <p>Writing and Enrichment:</p> <ul style="list-style-type: none"> Provide blank bingo cards. Have students create bingo cards using ten frames, numerals, tallies, number rack and other representations.

Module 4- Session 2: Kid Count Number Line		
<p>K.CC.2 K.CC.6</p> <p>MP.1 MP.2 MP.7</p>	<p>Access Prior Learning and Connections to Future Learning:</p> <ul style="list-style-type: none"> Matching numerals, number names, and quantities with dots and cards Ordinal numbers are introduced, but are not a kindergarten expectation <p>Beginning with the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> counting backwards <p>Developing:</p> <ul style="list-style-type: none"> matching numerals to quantity <p>Secure:</p> <ul style="list-style-type: none"> recognizing 1-9 sequence 	<p>Instructional Note:</p> <ul style="list-style-type: none"> Visual models are ten-frame five-wise cards and number cards. <p>Literature Connections:</p> <ul style="list-style-type: none"> <i>Henry the Fourth</i> by Stuart Murphy <p>Writing and Enrichment:</p> <ul style="list-style-type: none"> For further development of flexibility, note EXTENSIONS for this activity in the sidebar note p. 10. <i>Home Connection</i> p. 10 and <i>Home Connection</i> tab p. 69-73.
Module 4- Session 3: Grab Bag Five & More		
<p>K.CC.2 K.CC.4b K.CC.5 K.CC.6 K.CC.7</p> <p>MP.1 MP.2 MP.7</p>	<p>Access Prior Learning and Connections to Future Learning:</p> <ul style="list-style-type: none"> Counting collections in different ways is a developing concept. <p>Beginning with the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> understanding cardinality recognizing magnitude using the five-structure subitizing 	<p>Guiding Questions:</p> <ul style="list-style-type: none"> Why might using a gate (tally) make it easier to count sticks? <p>Instructional Note:</p> <ul style="list-style-type: none"> Visual models are numeral cards 0-10, and craft sticks. Students connect tally sticks and Number Cards. This activity emphasizes practice with counting “5 and some more”. <p>Number Corner Connections:</p> <ul style="list-style-type: none"> Counting collections in different ways is a focus in September through December.
Module 4- Session 4: Fives Up		
<p>K.CC.2 K.OA.3 K.OA.4</p> <p>MP.1 MP.8</p>	<p>Access Prior Learning and Connections to Future Learning:</p> <ul style="list-style-type: none"> Decompose numbers less than or equal to 10 into pairs in more than one way is covered in all units. <p>Beginning with the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> making combinations to 5 composing and decomposing understanding part/whole relations <p>Developing:</p> <ul style="list-style-type: none"> understanding cardinality subitizing 	<p>Guiding Questions:</p> <ul style="list-style-type: none"> Why is it important that I can build the number combinations for the number 5? 10? How can I use different combinations of numbers to represent the same quantity? <p>Instructional NOTE:</p> <ul style="list-style-type: none"> Visual models are ten-frame dot cards, fingers. Fives Up might not be an independent workplace yet. Consider playing this game during your small group instruction instead so that you can provide prompting to collect cards that equal 5. Teachers might support by having students use fingers to represent situations or enrich by inviting students to write equations. Digital display tool link: https://bridges.mathlearningcenter.org/digital-materials/work-place-3f-fives <p>Number Corner Connections:</p> <ul style="list-style-type: none"> Decompose numbers less than or equal to 10 into pairs in more than one way is a developing concept. Months Oct-May include this concept. <p>Writing and Enrichment:</p> <ul style="list-style-type: none"> For extension, consider using the ten-frame cards 0-10.
Module 4- Session 5: Introducing Work Place 3F Fives Up		
<p>K.CC.2 K.OA.3 K.OA.4</p> <p>MP.1 MP.8</p>	<p>Access Prior Learning and Connections to Future Learning:</p> <ul style="list-style-type: none"> Fluently add and subtract within 5 is covered in all units. <p>Beginning with the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> making combinations to 5 composing and decomposing understanding part/whole relations 	<p>Guiding Questions:</p> <ul style="list-style-type: none"> Why is it important that I can build the number combinations for the number 5? 10? How can I use different combinations of numbers to represent the same quantity? <p>Instructional Notes:</p> <ul style="list-style-type: none"> Visual models are dot cards and Number Cards. Fives Up record sheet is optional and can be added to the <i>Work Place</i> based on student ability.

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	Developing: <ul style="list-style-type: none"> • understanding cardinality • subitizing 	Number Corner Connections: <ul style="list-style-type: none"> • Fluently add and subtract within 5 is an introductory concept. Months Oct-May cover this concept. Writing and Enrichment: <ul style="list-style-type: none"> • See <i>Teacher Masters</i> (p. T2) of the <i>Work Place Guides for Differentiation</i> ideas. • See <i>Work Place Instructions</i> p. T3 for game variations. • <i>Home Connection</i> p. 21 and <i>Home Connection</i> tab pp. 75-76.
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