▶ Kindergarten Unit 8: Computing & Measuring with Frogs & Bugs

Big Conceptual Idea: K-5 Progression on Number and Operations in Base Ten (pp. 1-5) K-5 Progression on Counting and Cardinality and Operations and Algebraic Thinking (pp. 1-11), K-5 Progression on Measurement and Data (Measurement Part) (pp. 1-4, 6-7), K-5 Progression on Measurement and Data (Data Part) (pp. 1-5)

Read the Bridges <u>Unit Overview/Introduction</u> for Unit 8 pp. i-vi. Also read each <u>Module Overview</u> for the current week's sessions, and the current <u>Session Summary</u> 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.

Mathematical Background: Read Bridges Unit 8 Overview and Introduction (pp. i-vi)	**Unit Essential Question for the Teacher:** How can my understanding of a progression of addition and subtraction strategies and problem types support my students' development to fluently add and subtract within 5? How might I support their understanding of number combinations to 10 by efficiently using the five-structure? How might I solidify their understanding of place value as 10 and some more 1s?

Unit 8
Computing & Measuring with Frogs & Bugs
20 sessions over **20** days
A/D/E: **4** days
NVACS Focus Domains:
MD-NBT-OA
Total Days: ~24

Kindergarten Curriculum Pacing
Framework: Balanced Calendar

Instructional note:

Unit 8 Sessions prepare students for the transition into 1st grade by reinforcing what students' already know about counting and cardinality, combinations of numbers within 5 and to 10, and then with 10 ones and some more ones. They also encourage development of place value understanding and beginning fluency with addition and subtraction. Students continue to use five-frames, ten-frames, double ten-frames, cubes, craft sticks, the number line and the number rack to visualize these relationships. They also explore written notations to 20. Van de Walle, Karp, and Bay-Williams state there is overwhelming emphasis in math instruction that addition is simply put together and subtraction is simply take away. "The fact is these are not definitions of addition and subtraction. When students develop these limited definitions they often have difficulty later when addition and subtraction structures are different from put together and take away" (2013 p. 151).

Subtraction in this Unit is an act of taking some away from a total, naming the missing part, and comparing or determining the difference between two quantities. Students build meaning by exploring the idea that subtraction is also taking apart or separating groups. Subtraction can be thought of as an unknown addend problem rather than just counting what is left. This Unit builds the relationship between addition and subtraction. Different problem types are addressed in *Table 1. Common addition and subtraction situations* (NVACS, 2010, p. 88). They are also shown in the *K-5 Progression on Counting and Cardinality and Operations and Algebraic Thinking* (linked above, p. 9), which highlights the problem types appropriate for kindergarten development. Support student learning by developing understanding of the different problem types and watching for the multiple strategies that may be used to solve story problems (see the chart on p. iii in the Unit 8 Introduction). Students revisit measurement of length emphasizing estimation, measurement, and comparison, along with exploring ideas when counting by twos, and revisiting money for counting.

As another transition to 1st grade, consider introducing the *Work Place Folders* and the *Work Place Logs* for student use during *Work Places* if not previously introduced. Students will use these folders and logs in 1st grade to promote self-regulation, self-directed learning, choice, and accountability. *Work Place Folder* explanations are found in your Unit 1 binder under Module 2 Session 4 (p. 16). The *Work Place Log* for Unit 8 is located in the Unit 8 binder under Module 1 Teacher Masters p. T4.

The mathematics content of Unit 8:

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:
    - Representing and solving addition and subtraction problems with objects, drawings or equations
    - Combinations within 10
    - Using the ten-structure (10 and some more 1s)
    - Place determines value
- Watch for students' attempts at thinking about and using these new **strategic behaviors/strategies** to demonstrate their emerging understandings of the big mathematical ideas:
    - Fluency
    - Seeing and using patterns

- Multiple ways for representing and solving story problems

Over time, with supportive and scaffolded instruction and interactions students will be able to:

- employ more efficient and effective use of strategies leading to and confirming deeper and more expanded understandings of numbers and place value.
- gain a more precise understanding of comparing, estimating, and measuring.
- demonstrate appropriate precision with mathematics content and vocabulary.
- flexibly explain and represent solutions to addition and subtraction problems.

Intentionality with the context and range of numbers students work with in mathematics supports and drives this development.

On-going enrichment:

- Take note of the **<u>Skills Across the Grade Level</u>** chart in the Introduction section to each Unit. This chart shows the extent and expectation of the development of Standards within the Unit (ex: Unit 8, p. iv-v), and within which other Units and Number Corner Workouts the Standards continues to be taught across the year. This information will also support your professional decision-making within the Unit for instruction, intensification, and intervention.
- Expect all students to engage in the problem solving and in explaining and justifying their thinking
- Use Table 1 in the Nevada Academic Content Standards (NVACS) titled "Common addition and subtraction situations" (p. 88) to think about intensification and acceleration.

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)
fact family*	*numeral* *more** *pattern** *addition* *number** *subtraction* *square** *add** *less than** *subtract** *ones** *equal** *greater than** *estimate** *tens** *equation** *long/longer/longest** *short/shorter/shortest**

***Additional terminology that students may need support with**: minus, strategies*, reasonable, *after, before, in all, plus, different.*

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: Bug Catchers		
K.CC.2 K.CC.3 **K.OA.1** K.OA.2 **K.OA.3** K.OA.4 K.OA.5 MP.1 **MP.4**	**Access Prior Learning and Connections to Future Learning**: • Represent subtraction with objects and equations is reinforced from Units 3, 4, & 7. **Developing the Big Idea and key Strategic Behaviors:** • **combination of within 10** • **composing and decomposing** Secure: • subitizing • using the five-structure	**Guiding Questions**: • How can I find what is left over when I take one quantity from another? • How did you separate the bugs from the original set? **Instructional Notes:** • Visual models are number to ten counting mat visuals and cubes • Consider using plastic bugs instead of cubes, especially for ELs, if available • To build the more precise understanding of subtraction as referenced above, consider having a separate clear container (plastic cup or basket) to hold the bugs when removing them from the original set. Students then see the group separated from rather than the group disappearing. **Number Corner Connection:** • Represent subtraction with objects and equations is expected to be secure in this Unit. It was introduced/developed in Dec-May **Literature Connections:** • *Elevator Magic* by Stuart Murphy • *The Icky Bug* by Vicki Bachman • *Ten Flashing Fireflies* by Philemon Sturgess (recommended in previous Sessions for addition, now you can also use it for subtraction) **Writing and Enrichment:** • Consider having students write equations based on one of the read alouds

Module 1: Session 2: Introducing Work Place 8A Bug Catchers

K.CC.2 K.CC.3 **K.OA.1** K.OA.2 **K.OA.3** K.OA.5 MP.1 **MP.4** **MP.8**	**Access Prior Learning and Connections to Future Learning**: • Represent subtraction with objects and equations is reinforced from Units 3, 4, & 7. **Developing the Big Idea and key Strategic Behaviors:** • **combination of within 10** • **composing and decomposing** **Secure:** • subitizing • using the five-structure	**Guiding Questions**: • What action indicates that we are subtracting? Why? • How can I find what is left over when I take one quantity from another? • How did you separate the bugs from the original set? **Instructional Notes:** • Visual model are cubes, student drawings, ten-frame counting mats, and equation recording sheet • Optional Unit 8 *Work Place Log* available on p. T4. You might consider using this log at this time as a transition to 1st grade, if you have not been using them this year in kindergarten. **Number Corner Connections:** • Represent subtraction with objects and equations is expected to be secure in this Unit. This was introduced/developed in Dec.-May. **Writing and Enrichment:** • See *Teacher Masters* (p. T1) of the *Work Place Guides for Differentiation* ideas • See *Work Place Instructions* (p. T2) for game variations • *Home Connection* p. 9 and *Home Connection* tab pp. 197-198

Module 1- Session 3: Piggy Bank Subtraction

K.CC.2 K.CC.3 **K.OA.1** K.OA.2 **K.OA.4** K.OA.5 MP.1 **MP.4** **MP.8**	**Access Prior Learning and Connections to Future Learning**: • Represent subtraction with objects and equations is reinforced from Units 3, 4, & 7. • Fluently subtract minuends to 5 is only in Unit 8; subtraction fluency. **Developing the Big Idea and key Strategic Behaviors:** • **combination of within 10** • **composing and decomposing** **Secure:** • subitizing • using the five-structure	**Guiding Questions:** • How is the Piggy Bank game similar to Bugs and Bug Catchers? • How can I model subtraction using my fingers? • Is counting backward a good strategy for subtraction? Why or why not? **Instructional Notes:** • Visual models are pennies, ten-frame counting mats, written equations, and number and dot spinners • Consider using a small piggy bank, coffee can, milk carton, plastic cup, potato chip can, etc. to enhance the auditory to kinesthetic connection **Number Corner Connection:** • Represent subtraction with objects and equations is expected to be secure in this Unit. This was introduced/developed in Dec.-May. • Fluently subtract minuends to 5 is expected to be secure at this time. This was explored in Jan.-May. **Literature Connections:** • *The Penny Pot* by Stuart Murphy **Writing and Enrichment:** • Consider having students think of something they would like to buy and write a story problem in a journal or on paper

Module 1- Session 4: Introducing Work Place 8B Piggy Bank Subtraction

K.CC.2 K.CC.3 **K.OA.1** K.OA.2 **K.OA.3** K.OA.5 MP.1 **MP.2** **MP.4** MP.8	**Access Prior Learning and Connections to Future Learning**: • Represent subtraction with objects and equations is reinforced from Units 3, 4, & 7. • Fluently subtract minuends to 5 is only in Unit 8; subtraction fluency. **Developing the Big Idea and key Strategic Behaviors:** • **combination of within 10** • **composing and decomposing** **Secure:** • subitizing • using the five-structure	**Guiding Questions**: • How is the Piggy Bank game similar to Bugs and Bug Catchers? • How can I model subtraction using my fingers? • Is counting backward a good strategy for subtraction? Why or why not? **Instructional Notes:** • Visual models are pennies, ten-frame counting mats, written equations, and number and dot spinners **Number Corner Connections:** • Represent subtraction with objects and equations is expected to be secure in this Unit. This was introduced/developed in Dec.-May. • Fluently subtract minuends to 5 is expected to be secure. This is explored in Jan.-May . **Writing and Enrichment:** • See *Teacher Masters* (p. T5) of the *Work Place Guides for Differentiation* ideas • See *Work Place Instructions* (p. T6) for game variations

Module 1- Session 5: Introducing Work Place 8C Count & Compare Bugs

K.CC.2 K.CC.5 **K.CC.6** **K.NBT.1** MP.1 **MP.2** **MP.4**	**Access Prior Learning and Connections to Future Learning**: • Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group reinforced from all Units. • Use an equation to represent any number from 11 to 19 as the sum of 10 and some more ones was also covered in Unit 7. **Developing the Big Idea and key Strategic Behaviors:** • **combinations of 10 and some more 1s** **Secure:** • **magnitude (greater than, less than, and equal to) within 10**	**Guiding Questions**: • How can I model subtraction using my fingers? • Is counting backward a good strategy for subtraction? Why or why not? • How are you counting your cubes/dots? Is there another way to count your cubes/dots? • How does using ten-frames help you count your dots? **Instructional Notes:** • Visual models are cubes, double ten-frame dot cards and written equations using <, >, = **Number Corner Connections:** • 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 reinforced/extended in this lesson. This is explored in Oct., Dec., Jan., Apr., Mar., Apr., and May. • Use an equation to represent any number from 11 to 19 as the sum of 10 and some more ones is expected to be secure. This is explored in Mar. and April. **Writing and Enrichment:** • See *Teacher Masters* (p. T8) of the *Work Place Guides for Differentiation* ideas • See *Work Place Instructions* (p. T10) for game variations • *Home Connection* p. 23 and *Home Connection* tab p. 199-200 **Child Watching and Assessment:** **Bug Catcher CHECKPOINT** – observe 4 students (see p. 22 and T12). Also see scoring and reteaching suggestion in the Assessment Binder, Bridges Unit Assessments tab p. 88-89.

Module 2- Session 1: Frog Jump Measuring

K.CC.1 **K.CC.6** K.MD.1 **K.MD.2** MP.1 MP.5 **MP.6**	**Access Prior Learning and Connections to Future Learning**: • Describe the length of an object, directly compare the lengths of two objects, and describe the difference between their lengths are all reinforced/extended from Unit 4. **Secure the Big Idea and key Strategic Behaviors:** • **measuring with non-standard measures** • **estimating** • **comparing**	**Guiding Questions** • Which jump is longer or shorter? How do you know? • What tool did you use to compare the jumps? • Is placing the sticks end to end important? Why? **Instructional Notes:** • Visual models are physical jumps marked by masking tape, and craft sticks • Consider using pictures of frogs and a short video of how frogs jump, to support ELs **Number Corner Connection:** • Describe the length of an object concept is reinforced/extended. This was a focus in Nov. • Directly compare the lengths of two objects, and describe the difference between their lengths. This was a focus in Nov. **Literature Connections:** • *Jump Frog Jump* by Robert Kalan (As a math/science connection activity: Teacher/student is holding a playground ball with a bean bag frog balancing on it's top edge. With children in a circle, say, "Jump, frog, jump" and the students "drop". Teacher lets the ball drop (for this to work you must hold arms out straight and let ball fall). Frog will "jump"! Children can try to catch the frog. • Frog songs and rhymes available p. T6, T7, and T8

Module 2- Session 2: Introducing Work Place 8D Frog Jump Measuring

K.CC.6 K.MD.1 **K.MD.2** MP.1 MP.5 **MP.6**	**Access Prior Learning and Connections to Future Learning**: • Describe the length of an object, directly compare the lengths of two objects, and describe the difference between their lengths are all reinforced/extended from Unit 4. **Securing the Big Idea and key Strategic Behaviors:** • **measuring with non-standard measures** • **estimating** • **comparing**	**Guiding Questions**: • Which jump is longer or shorter? How do you know? • What tool did you use to compare the jumps? • Is placing the sticks end to end important? Why? **Instructional Notes:** • Visual models are physical jumps marked with masking tape, craft sticks, and measuring recording sheets • Consider having students measure a variety of objects with other measurement tools such as cubes, paper clips, links, etc. **Number Corner Connections:** • Describe the length of an object concept is reinforced/extended. This was a focus in Nov. • Directly compare the lengths of two objects, and describe the difference between their lengths. This was a focus in Nov. **Literature Connections:** • *Ready, Set, Hop* by Stuart Murphy *-continues on next page-*

		Writing and Enrichment:
		• See *Teacher Masters* (p. T1) of the *Work Place Guides for Differentiation* ideas • See *Work Place Instructions* (p. T2) for game variations • *Home Connection* p. 10 and *Home Connection* tab pp. 201-202

Module 2- Session 3: Frog Eyes – Counting by Twos (optional)

K.CC.3 K.CC.5 K.OA.1 K.OA.2 **1.NBT** MP.1 MP.7 **MP.8**	**Access Prior Learning and Connections to Future Learning**: • Count forward from a given number, rather than starting at 1 is a skill being reinforced/extended. • Working with equal groups of objects by pairing objects or counting them by 2s problem type is not mastered until second grade. **Developing the Big Idea and key Strategic Behaviors:** • using repeated patterns • skip counting by 2s • graphing	**Instructional Notes:** • **Optional lesson** – this Session can also be used as additional A/D/E day as needed • Visual models are triangular pattern made with constructed frogs with 2 eyes, number cards, and counting by twos mystery numbers charts

Module 2- Session 4: Unifix Cube Measuring

K.CC.1 K.CC.3 K.OA.1 K.OA.2 **K.NBT.1** MP.1 **MP.5** **MP.7** MP.8	**Access Prior Learning and Connections to Future Learning**: • Counting by ones and tens to 100 was also in Unit 7. **Developing the Big Idea and key Strategic Behaviors:** • writing equations **Secure:** • **measuring with non-standard measures** • **estimating** • **comparing** • counting by 10s and 1s	**Guiding Questions**: • What strategies can we use to count the cubes quickly or efficiently? • Is there more than one way? **Instructional Notes:** • Visual models are cubes into ten-trains, classmates and other objects, and written equations • Note SUPPORT ideas on p. 17 for common partial understandings **Number Corner Connection:** • Count to 100 by 10s is expected to be secure. This is addressed in Oct., & Dec.- May. **Writing and Enrichment:** • See *Teacher Masters* (p. T9) of the *Work Place Guides for Differentiation* ideas • See *Work Place Instructions* (p. T10) for game variations • Consider having students make trains of 5 and count by 5s if counting by 1s and 10s is secure and if this *Work Place* skill is fluent

Module 2- Session 5: Make It Ten

K.CC.3 K.OA.3 **K.OA.4** MP.1 MP.2 **MP.8**	**Access Prior Learning and Connections to Future Learning**: • Decompose numbers less than or equal to 10 in pairs more than one way and record is reinforced from all units. **Developing the Big Idea and key Strategic Behaviors:** • **using combinations within 10** • **writing equations** **Secure:** • identifying three-dimensional shapes	**Instructional Notes:** • Visual models are cubes, ten-frames, and written equations **Literature Connections:** • *12 Ways to Get to 11* by Eve Merriam • *Domino Addition* by Lynette Long **Number Corner Connections:** • Decompose numbers less than or equal to 10 in pairs more than one way and record is expected to be secure. This is explored in Oct. through May **Writing and Enrichment:** • Consider replacing this Session replaying Beat You to Ten (Unit 2, M3, S6 p. T8) focusing on the game variation suggestion for writing addition and subtraction equations. • Consider modifying this Session by using the first *Home Connection* separate, change unknown problem (p. 203) as a class problem solving opportunity rather than teaching and playing Make It Ten • *Home Connection* p. 23 and *Home Connection* tab pp. 203-204

Module 3- Session 1: Place Value Build & Win

K.CC.5 K.CC.6 **K.CC.7** **K.NBT.1**	**Access Prior Learning and Connections to Future Learning:** • Count up to 20 objects arranged in a line, rectangular array or	**Guiding Questions**: • What is an efficient strategy for counting number in the teens? How is your strategy the same or different from your partner's? • What is the difference between a group of 10 and the left overs? *-continues on next page-*

MP.1 MP.2 **MP.4** **MP.8**	circle to answer "how many?" is reinforced from Units 4 & 6. • 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 reinforced/extended from all Units. • Compose and decompose numbers from 11 to 19 into tens and ones was also covered in Unit 6. **Developing the Big Idea and key Strategic Behaviors:** • using the ten-structure • **understanding combinations of 10 and some more 1s** • **understanding place determines value** • comparing written numbers using < > greater than 10	**Instructional Notes:** • Visual models are ten-trains of cubes, place value mats, written < > expressions, and ten & more numeral display cards • Recommend if you skipped *Problems & Investigations* in M2, S3 replace Step 1 (warm-up) with counting by 10s instead of counting by 2s • Note SUPPORT suggestion on p. 5 for addressing confusion over 10s and 1s. Clarification – Student have difficulty with ten as a singular word that means 10 things. Take advantage of the Word Resource Cards for "one", "ones", and "tens" to provide picture support. Also make connections to the *Days in School Number Corner* routine with the ten-frames/dots. • Digital display tool link found on the [Bridges web site](#). **Number Corner Connections:** • Reviewed or extended to higher levels - Count up to 20 objects arranged in a line, rectangular array or circle to answer how many. Explored in Feb., Mar., & Apr. • Expected to be secure - Compose and decompose numbers from 11 to 19 into tens and ones. Explored in Dec., Mar. & Apr. • 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 reinforced/extended in this lesson. This is explored in Oct., Dec., Jan., Apr., Mar., Apr., and May.

Module 3- Session 2: One More Than, One Less Than

K.CC.2 K.CC.4c **K.OA.2** **K.NBT.1** MP.1 MP.2 **MP.8**	**Access Prior Learning and Connections to Future Learning:** • Count up to 20 objects arranged in a line, rectangular array or circle to answer "how many?" is reinforced from Units 4 & 6. • 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 reinforced/extended from all Units. • Compose and decompose numbers from 11 to 19 into tens and ones was also in Unit 6. **Developing the Big Idea and key Strategic Behaviors:** • using the ten-structure • comparing < > greater than 10 • **using one more/less within 20**	**Guiding Questions:** • What is the difference between more and less? • How are these numbers related? (e.g. How is six related to five? "6 is one more than 5." "Six is composed of 5 and 1." "Six is one more away from zero than five." etc.) **Instructional Notes:** • Visual models are ten-frame dot cards, double ten-frame dot cards, and number line • Recommend if you skipped *Problems & Investigations* in M2, S3 replace Step 1 (warm-up) with counting backwards by 10s instead of counting by 2s **Number Corner Connections:** • Reviewed or extended to higher levels - Count up to 20 objects arranged in a line, rectangular array or circle to answer how many. Explored in Feb., Mar., & Apr. • Expected to be secure - Compose and decompose numbers from 11 to 19 into tens and ones. Explored in Dec., Mar. & Apr. • 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 reinforced/extended in this lesson. This is explored in Oct., Dec., Jan., Apr., Mar., Apr., and May **Writing and Enrichment:** • *Home Connection* p. 10 and *Home Connection* tab pp. 205-206

Module 3- Session 3: Two More Than, Two Less Than

K.CC.2 **K.OA.2** **K.NBT.1** MP.1 MP.2 **MP.8**	**Access Prior Learning and Connections to Future Learning:** • Count up to 20 objects arranged in a line, rectangular array or circle to answer "how many?" is reinforced from Units 4 & 6. • 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 reinforced/extended from all Units. • Compose and decompose numbers from 11 to 19 into tens and ones was also covered in Unit 6.	**Guiding Questions:** • What is the difference between more and less? • How are these numbers related? (e.g. How is six related to four?) **Instructional Notes:** • Visual models are ten-frame dot cards, double ten-frame dot cards, and number line • Recommend if you skipped *Problems & Investigations* in M2, S3 replace Step 1 (warm-up) with counting round the oval by 10s instead of counting by 2s • Digital display tool link (p. 2) found on the [Bridges web site](#). **Number Corner Connections:** • Reviewed or extended to higher levels - Count up to 20 objects arranged in a line, rectangular array or circle to answer how many. Explored in Feb., Mar., & Apr. • Expected to be secure- Compose and decompose numbers from 11 to 19 into tens and ones. Addressed in Dec., Mar. & Apr. • 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 reinforced/extended in this lesson. This is explored in Oct., Dec., Jan., Apr., Mar., Apr., and May. *-continues on next page-*

	Developing the Big Idea and key Strategic Behaviors:	Writing and Enrichment:
	• using the ten-structure • comparing < > greater than 10 • **using two more/two less**	• Consider having students write number stories for "one more" or "one less" in journals or on paper. • For extension consider changing the section of the number line used to greater numbers

Module 3- Session 4: Count & Compare Bugs Checkpoint

	Access Prior Learning and Connections to Future Learning:	Guiding Questions:
K.CC.6 **K.NBT.1** MP.1 MP.2 **MP.8**	• What games do you play at home? What do you already know about 5? **Developing the Big Idea and key Strategic Behaviors::** • **using the ten-structure** • combinations of 10 and some more 1s • **comparing written numbers using < > greater than 10** • **writing equations**	• Can you find out what is more or less without counting? With counting? **Instructional Notes:** • Visual models cubes, double ten-frame dot cards, < >, and written equations **Child Watching and Assessment:** • **Count & Compare Bugs CHECKPOINT–** observe 4 students (see p. 16 and T2). Also see scoring and reteaching suggestion in the Assessment Binder, Bridges Unit Assessments tab pp. 92-93.

Module 3- Session 5: Race You to 30 cents

	Access Prior Learning and Connections to Future Learning:	Instructional Notes:
K.CC.6 K.OA.3 **K.OA.4** K.NBT.1 MP.1 MP.7 **MP.8**	• The counting on strategy is emphasized in this game. However, counting on as a strategy is a grade 1 standard • 10 can be thought of a bundle of ten ones-called a "ten" is for exposure only. Composing a ten called one 10 is a 1st grade standard. **Developing the Big Idea and key Strategic Behaviors:** • recognizing combinations within 10 • recognizing combinations of 10 and some more 1s • **using the ten-structure**	• Visual models are pennies and dimes • Recommend if you skipped *Problems & Investigations* in M2, S3 replace Step 1 (warm-up) with counting in a different way by 10s instead of counting by 2s • Consider giving all students real pennies and dimes and then grouping in different ways to practice counting to and by 10 • Counting on is an advanced method (Level 2) because students apply an abstract principle: the understanding that a counting word represents a group of objects that are added and addends become embedded within the total (OA Progressions, p. 5). • Digital display tool link found on the Bridges web site. **Writing and Enrichment:** • *Home Connection* p. 21 and *Home Connection* tab pp. 207-208

Module 4- Session 1: Where Do You See It?

	Access Prior Learning and Connections to Future Learning:	Instructional Notes:
K.CC.3 K.CC.5 K.OA.2 **K.OA.3** K.OA.4 **MP.1** MP.2 **MP.4**	• Decompose numbers less than or equal to 10 into pairs in more than one way and record is reinforced from all units except Unit 4. • Represent addition with acting out situations, drawings, and questions is reinforced from Units 2, 3, 4, & 7. **Developing the Big Idea and key Strategic Behaviors:** • **combinations within 10** • equivalence • **part/whole relations: relationship between addition and subtraction** • **writing equations**	• Visual models are ten-frame five-wise display cards, fingers, and written equations **Number Corner Connections:** • Expected to be secure - Decompose numbers less than or equal to 10 into pairs into more than one way and record. This is explored in all months except Sept. • Represent addition with acting out situations, drawings, and questions. Explored in Dec.-May. **Writing and Enrichment:** • Consider having students write a story problem to match an equation from their Student Book pp. 37-38.

Module 4- Session 2: Show Me		
K.OA.1 K.OA.2 **K.OA.3** MP.1 **MP.4** MP.7	**Access Prior Learning and Connections to Future Learning**: • Decompose numbers less than or equal to 10 into pairs in more than one way and record is reinforced from all units except Unit 4. • Represent addition with acting out situations, drawings, and questions is reinforced from Units 2, 3, 4, & 7. **Developing the Big Idea and key Strategic Behaviors:** • **recognizing combinations within 10** • understanding equivalence • **composing and decomposing within 10**	**Guiding Questions**: • Does the order of addends change the total? • How can I use models to represent addition? • Does where I put the cubes change the total? **Instructional Notes:** • Visual models are written equations, cubes, ten-frame pair-wise display cards, counting mat visual, and the number rack **Number Corner Connections:** • Expected to be secure - Decompose numbers less than or equal to 10 into pairs into more than one way and record. Explored in all months except Sept. • Represent addition with acting out situations, drawings, and questions. Explored in Dec-May. **Writing and Enrichment:** • *Home Connection* p. 11 and *Home Connection* tab pp. 209-210
Module 4- Session 3: Fact Families (optional)		
K.OA.1 K.OA.3 **K.OA.5** **1.OA.C.6** MP.1 MP.2 MP.3 **MP.8**	**Access Prior Learning and Connections to Future Learning**: • Using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 - 8 = 4) and analyzing fact families is a first grade standard. This session is for exposure only. **Developing the Big Idea and key Strategic Behaviors:** • writing equations **Secure:** • using fluency with combinations to 5	**Guiding Questions**: • How do you know if you have found all the ways to make equations to show the relationships between 4, 1, and 5? **Instructional Notes: Please consider making this an exploration rather than a teacher directed lesson.** • Visual models are written equations, two-color counters, cubes, and number rack (five-frame display cards are in the original Session interactions) • Make explicit connections to the number rack work from yesterday • To increase student engagement, consider having students choose a manipulative (at least 5 two-color counters each, or 10 cubes of two colors, or a number rack); have students represent as many different combinations of 5 as they can; as the students explain their thinking/combinations with the class the teacher records the student equations and asks questions to drive student exploration to many possibilities for recording equations (5 = 4+1; 5 = 1+4; 1 = 5-4; 4 = 5-1; 4+1 = 5; 1+4 = 5; 5-4 = 1; 5-1 = 4)
Module 4- Session 4: Double Irish Chain Frog Quilt, Part 1 (optional)		
K.CC.5 **MP.6**	**Access Prior Learning and Connections to Future Learning**: **Developing the Big Idea and key Strategic Behaviors:** • finging patterns	**Guiding Questions** • How can we extend a pattern we already see? **Instructional Notes:** • **OPTIONAL SESSION** – days can be used as additional A/D/E days as needed • Visual model is the quilt squares and completed quilt
Module 4- Session 5: Double Irish Chain Frog Quilt, Part 2 (optional)		
MP.6 MP.7	**Access Prior Learning and Connections to Future Learning**: **Developing the Big Idea and key Strategic Behaviors:** • finding patterns	**Guiding Questions** • How can we extend a pattern we already see? **Instructional Notes:** • **OPTIONAL SESSION** – days can be used as additional A/D/E days as needed • Visual model is the quilt squares and completed quilt **Writing and Enrichment:** • *Home Connection* p. 26 and *Home Connection* tab p. 211-212

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