Kindergarten Unit 7: Weight & Place Value

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 Unit Overview/Introduction for Unit 7 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.

Unit 7

Weight & Place Value

20 sessions over **20** days

A/D/E: **5** days

NVACS Focus Domains:
MD-NBT-O

Total Days: ~25

Kindergarten Curriculum Pacing Framework: Balanced Calendar

Mathematical Background:	Unit Essential Question for the Teacher:
Read Bridges Unit 7 Overview and Introduction (pp. i-vi)	How do I encourage students to use what they know about the number 5 as they are developing number understanding within 10 and then with 10 ones and some more ones? How do I support understanding of measurement with continuous attributes? How do I support students' early strategies in addition and subtraction?

Instructional note:
In Bridges Unit 7 students' use of 5 as a landmark and sub-base is a critical foundation for the understanding of place value. Understanding of 5 (being able to visually and mentally manipulate the quantity of 5 and the numbers within 5) is also beginning evidence of *Mathematical Practice 7 Look for and make use of structure* (NVACS, 2010, p. 8). As students move more intentionally and developmentally forward into numbers within 10, and then 10 ones and some more ones, confirm they are making mathematical connections from mathematical understanding of quantities as they work with various contexts, materials, and models.

In the *K-6 Progression on Number and Operations in Base Ten,* it states, "In Kindergarten, teachers help children lay the foundation for understanding the base-ten system by drawing special attentions to 10. Children learn to view the whole numbers 11 through 19 as ten ones and some more ones" (p. 5). Do not move too quickly into procedural writing of number equations. Continue to encourage the building of solid synaptic connections as quoted above. Students will be using visual models (ten-frames, double ten-frames, trains of cubes, bundles of sticks, number lines, drawings and equations) as they develop understanding of working with 10s and some more 1s. In moving away from counting by 1s, students are encouraged to use a variety of strategies, such as subitizing, using fingers, counting on, counting backward, using the 1-9 sequence, using doubles, using known facts, skip counting, etc. for quick recognition of parts of numbers (Fosnot, 2001).

In Unit 7 students will also be developing strategies through the use of manipulatives, equations or drawings to compose and decompose numbers from 11-19. See Introduction p. iv for suggestions of strategic behaviors to watch for in early addition and subtraction. *Table I. Common addition and subtractions situations* (NVACS, 2010, p.88) provides support for the development of addition and subtraction

Measurement Unit 7: As students learn to recognize, describe, and compare various continuous attributes, the measurement of weight (which has non-geometric attributes as well as do mass, capacity, time, and color often explored in science or social studies) is introduced. Weight, however, is not a focus for mathematics in kindergarten (see *K-5 Progression on Measurement and Data (Measurement Part – K-5 Geometric Measurement*). This Unit does give students opportunity to revisit the ideas of interval counting, continuous attributes, units, indirectly comparing objects using numbers, estimating, and equality in comparisons focused on in Unit 4.

The mathematics content of Unit 7:
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:
  - Measurement (weight and capacity).
  - Representing and solving addition and subtraction problems with objects, drawings or equations.
- Watch for students' attempts at thinking about and using these new strategic behaviors/strategies to demonstrate their emerging understandings of the big mathematical ideas:
  - Describing weight
  - Describing capacity

- Creating and extending patterns
- Drawing equations
- Direct modeling
- Counting on

Over time, with supportive and scaffolded instruction and interactions, students come to a more precise understanding of measurement and place value, as well as developing appropriate precision with mathematics content and vocabulary. Intentionality with the context and range of numbers students work with supports number sense development and expansion.

On-going enrichment:

- Take note of the Skills Across the Grade Level 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 7, pp. v-vi), 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 Vocabulary:** (Vocabulary from Number Corner or prior units)		
weight*	*zero* *numeral* *number** *equal** *heavy/heavier/heaviest** *light/lighter/lightest**	*after** *before** *greater than** *ones** *tens**	*less than** *more** *less** *measure* *estimate**

Additional terminology that students may need support with: strategies, in all, minus, plus, combinations, actual, greater, different, same, compare*

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: Compare Weights		

K.CC.1
K.MD.1
K.MD.2
K.MD.3
 	
MP.1
MP.5
MP.7
	Access Prior Learning and Connections to Future Learning:
	• Describe measurable attributes of objects, such as length or weight; directly compare two objects with a measurable attribute in common to see which object has "more of"/"less of" the attribute, and describe the difference; and compare weights are all covered only in this unit. (The CCSS does not differentiate between weight and mass.)
	
	Developing the Big Idea and key Strategic Behaviors:
	• describing and comparing weight
	
	Secure:
	• counting
		Guiding Questions:
		• How can I compare 2 objects by weight?
		• How does a balance scale help us tell if an object is heavier or lighter?
		• Does an object's size affect its weight? Does bigger always mean heavier?
		
		Instructional Notes:
		• Visual models are balance scale and objects to measure weight
		
		Literature Connections:
		• *Mighty Maddie* by Stuart J Murphy
		
		Number Corner Connections:
		• Expected to be secure:
		  • Describe measurable attributes of objects, such as length or weight.
		  • Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference
		
		Writing and Enrichment:
		• In journals or on paper make a t-chart to record the heavy and light sort during the *Problems & Investigation* session (can be recorded with pictures or word).
		• Show the class a beach ball and baseball. Ask students to list all the ways they can compare and measure these 2 objects. Then, ask students to compare them by weight. Have students explain which weighs more in writing. Pose the question for a written response: Does bigger always mean heavier? (beach ball/tennis ball) Why? Can also extend the discussion to comparison between baseball and tennis ball.
		• Optional Unit 7 *Work Place Log* available on p. T5

Module 1- Session 2: A Pound of Potatoes		

K.CC.1
K.MD.1
K.MD.2
K.MD.3
 	
MP.1
MP.5
MP.7
	Access Prior Learning and Connections to Future Learning:
	• Describe measurable attributes of objects, such as length or weight; directly compare two objects with a measurable attribute in common to see which object has "more of"/"less of" the attribute, and describe the difference; and compare weights are all covered only in this unit. (The CCSS does not differentiate between weight and mass.)
	
	Developing the Big Idea and key Strategic Behaviors:
	• describing and comparing weight
	
	Secure:
	• counting
		Guiding Questions:
		• How can I compare 2 objects by weight?
		• How does a balance scale help us tell if an object is heavier or lighter?
		• If I wanted to pick something up, what would I want to know about what I was going to lift?
		
		Instructional Notes:
		• Visual models are a balance scales, potatoes, other objects to measure weight, and recording sheet visual.
		• Students are problem solving heavier and lighter.
		• The lesson focuses on the comparison in weight using a pound of potatoes. Lesson might be adapted to have students find things that weigh as much as an apple, tennis ball, water bottle, baseball, or small block.
		
		Literature Connections:
		• *Mighty Maddie* by Stuart J Murphy
		• *Balancing Act* by Ellen Stoll Walsh
		
		Number Corner Connections:
		• Expected to be secure at this time:
		  • Describe measurable attributes of objects, such as length or weight. Explored in April.
		  • Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. Explored in Nov. and Apr.
		
		Writing and Enrichment:
		Using a balance scale what objects can you find that weigh as much as a tennis ball?
		• Bridges Resource Digital Pan Balance found on the Bridges web site.
		• *Home Connection* p. 10 and *Home Connection* tab pp. 173-175

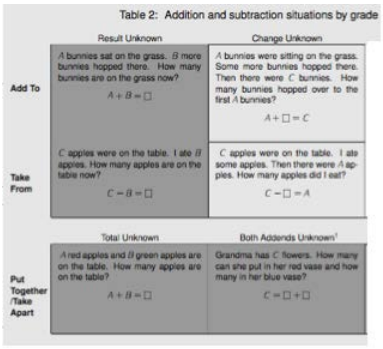
Module 1- Session 3: Introducing Work Place 7A Spin & Compare Weights		

K.CC.1
K.MD.1
K.MD.2
K.MD.3
 	
MP.1
MP.5
MP.7
	Access Prior Learning and Connections to Future Learning:
	• Describe measurable attributes of objects, such as length or weight; directly compare two objects with a measurable attribute in common to see which object has "more of"/"less of" the attribute, and describe the difference; and compare weights are all covered only in this unit. (The CCSS does not differentiate between weight and mass.)
	
	Developing the Big Idea and key Strategic Behaviors:
	• describing and comparing weight
	
	Secure:
	• counting
		Guiding Questions:
		• How can I compare 2 objects by weight?
		• How does a balance scale help us tell if an object is heavier or lighter?
		
		Instructional Notes:
		• Visual models are a balance scales and objects to measure by weight
		• Digital display tool link (p.2) found on the Bridges web site.
		
		Literature Connections:
		• *Equal Shmequal* by Virginia Kroll
		
		Number Corner Connections:
		• Expected to be secure at this time:
		  • Describe measurable attributes of objects, such as length or weight. Explored in April.
		  • Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. Explored in Nov. and Apr.
		
		Writing and Enrichment:
		• See *Teacher Masters* (p. T3) of the *Work Place Guides for Differentiation* ideas
		• See *Work Place Instructions* (p. T4) for game variations

Module 1- Session 4: Measuring Handfuls		
K.CC.1 K.CC.3 K.CC.5 K.OA.3 K.NBT.1 MP.1 MP.2 MP.7	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. Developing the Big Idea and key Strategic Behaviors: • using estimation • using the ten-structure Secure: • counting	Guiding Questions: • Is your handful closer to 10, 20 or 30? How do you know? • What is an efficient strategy for counting handfuls? Instructional Notes: • Visual models are cubes and ten-frame recording sheet. Number Corner Connections: • Reviewed and 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. *-continues on next page-*

		Writing and Enrichment: • Bridges Number Frame app: App: https://www.mathlearningcenter.org/resources/apps/number-frames Number Frames | The Math Learning Center • Number Frames help students structure numbers to 5, 10, 20, and 100. Students use the frames to count, represent, compare, and compute with numbers in a particular range. Child Watching and Assessments: • Combinations to Five and Equations CHECKPOINT – work individually with students (see p. 17 and T6). Also see scoring and reteaching suggestion in the Assessment Binder, Bridges Unit Assessments tab pp. 76-77.
Module 1- Session 5: Introducing Work Place 7B Measuring Handfuls		
K.CC.1 K.CC.3 K.CC.5 K.OA.3 K.NBT.1 MP.1 MP.2 MP.7	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. Developing the Big Idea and key Strategic Behaviors: • using estimation • using the ten-structure Secure: • counting	Guiding Questions: • Is your handful closer to 10, 20 or 30? How do you know? • What is an efficient strategy for counting handfuls? Instructional Notes: • Visual models are cubes and recording sheets. • Students are problem solving with groups of 1, 2, 5 and 10 using the ten-frame mats. See the sidebar note on p. 21. • This *Work Place* may not be independent at this point. Teacher/adult support may be needed • Consider using a smaller manipulative such as a two-colored counter, counting bears, counting bugs, or smaller pattern blocks for small hands. • Digital display tool link found on the Bridges web site. Literature Connections: • *The Masloppy Family* by Catherine Twomey-Fosnot 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. Writing and Enrichment: • See *Teacher Masters* (p. T7) of the *Work Place Guides for Differentiation* ideas • See Work *Place Instructions* (p. T8) for game variations • *Home Connections* p. 22 and *Home Connection* tab pp. 177-179
Module 2- Session 1: Capture the Number, Ten to Twenty		
K.CC.1 K.CC.5 K.NBT.1 MP.1 MP.2 MP.6	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. • Compose and decompose numbers from 11 to 19 into tens and ones is covered again in unit 8. Developing the Big Idea and key Strategic Behaviors: • using the ten-structure Secure: • comparing quantities • recognizing magnitude	Guiding Questions: • How can I determine how much is on a double ten frame without counting each dot? • How can I use grouping to help me count? Instructional Notes: • Visual models are double ten-frame five-wise display cards and the number line. • Students are problem solving with more than, less than, and equal to. • Digital display tool link found on the Bridges web site Literature Connections: • *The Masloppy Family* by Catherine Twomey-Fosnot 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. • Developing - Compose and decompose numbers from 11 to 19 into tens and ones. Explored in Dec., Mar. & Apr.

Module 2- Session 2: Introducing Work Place 7C Capture the Number		
K.CC.1 K.CC.3 K.CC.5 K.CC.7 K.NBT.1 MP.1 MP.2 MP.6	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. • Compose and decompose numbers from 11 to 19 into tens and ones is covered again in unit 8. Developing the Big Idea and key Strategic Behaviors: • using the ten-structure Secure: • comparing quantities • recognizing magnitude	Guiding Questions: • How can I determine how much is on a double ten frame without counting each dot? • How can I use grouping to help me count? Instructional Notes: • Visual models are double ten-frame five-wise cards and number line. • Digital display tool link: *Work Place* 7C Capture the Number (student version) found on the Bridges web site. Literature Connections: • *The Masloppy Family* by Catherine Twomey-Fosnot 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. • Developing - Compose and decompose numbers from 11 to 19 into tens and ones. Explored in Dec., Mar. & Apr. Writing and Enrichment: • See *Teacher Masters* (M2 S2 p. T1) of the *Work Place Guides for Differentiation* ideas • See *Work Place Instructions* (p. T2) for game variation • *Home Connection* p. 9 and *Home Connection* tab pp. 181-184
Module 2- Session 3: Double Top Draw		
K.CC.1 K.CC.5 K.CC.6 K.NBT.1 MP.1 MP.2 MP.7	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?" • 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 in all units. • Compose and decompose numbers from 11-19 into tens and ones is covered in unit 8. Developing the Big Idea and key Strategic Behaviors: • using the ten-structure • recognizing 10s in teens Secure: • using the five-structure • comparing quantities	Guiding Questions: • How can I determine how much is on a double ten frame without counting each dot? • How can I use grouping to help me count? Instructional Notes: • Visual models are double ten-frame pair-wise display cards and double ten-frame dot cards • Students are problem solving with teen numbers. See sidebar notes p. 12 regarding use of the double ten-frames to support students' strategic behaviors. • 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., & April. • Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group. Explored in Oct., Dec., Jan., Feb., Mar., Apr., & May. • Developing - Compose and decompose numbers from 11 to 19 into tens and ones. Explored in Dec., Mar. & Apr.
Module 2- Session 4: Introducing Work Place 7D Double Top Draw		
K.CC.5 K.CC.6 K.NBT.1 MP.1 MP.2 MP.7	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 in all units. • Compose and decompose numbers from 11 to 19 into tens and ones is covered again in unit 8. Developing the Big Idea and key Strategic Behaviors:	Guiding Questions: • How can I determine how much is on a double ten frame without counting each dot? • How can I use grouping to help me count? Instructional Note: • Visual models are double ten-frame cards. Number Corner Connections: • Reviewed and 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. • Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group. Explored in Oct., Dec., Jan., Feb., Mar., Apr., & May. • Developing - Compose and decompose numbers from 11 to 19 into tens and ones. Explored in Dec., Mar. & Apr. Writing and Enrichment: • See *Teacher Masters* (M2 S4 p. T7) of the *Work Place Guides for Differentiation* ideas • See *Work Place Instructions* (p. T8) for game variations *-continues on next page-*

	• using the ten-structure • recognizing 10s in teen numbers Secure: • using the five-structure • comparing quantities	
Module 2- Session 5: Greater Than? Less Than? Equal To?		
K.CC.6 K.CC.7 MP.1 MP.2 MP.7	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 is reinforced in all units. Developing the Big Idea and key Strategic Behaviors: • comparing greater than, less than, equal to	Guiding Questions: • How can I compare numbers using a number line? Instructional Notes: • Visual models are the number line and number cards • Digital display tool link found on the Bridges web site. Number Corner Connections: • Reviewed and extended to higher levels - Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group. Explored in Oct., Dec., Jan., Feb., Mar., Apr., & May. Writing and Enrichment: • Note the SUPPORT and CHALLENGE ideas on p. 19 for differentiation ideas • *Home Connection* p. 20 and *Home Connection* pp. 185-186
Module 3- Session 1: Story Problems, Part 1		
K.CC.5 K.CC.6 K.OA.1 K.OA.2 K.OA.4 K.OA.5 MP.1 MP.2 MP.3 MP.4 MP.5	Access Prior Learning and Connections to Future Learning: • Represent addition with objects, fingers, verbal explanations, expressions and equations is covered in Units 2,4,6,7, and 8. • Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem is also covered in Unit 6. • 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: • recognizing equivalence • understanding part/whole relationships between addition and subtraction • representing thinking Secure: • sense making	Guiding Questions: • How can I solve and represent problems using objects, pictures, words, and numbers? • How can strategies help us solve problems? How do you know when your answer makes sense? • How can you model a math problem with objects and pictures? Instructional Notes: • Visual models are ten-frames, pictures, and manipulatives. • Frogs Picture Problem 1 is for exploration only. This is a multiplication or repeated addition NVACS Problem Type of Equal Groups and Number of Groups Unknown. • Frogs Picture Problem 2 is more accessible for kindergarteners. It is a put together total unknown problem type. • Frogs Picture Problem 3 is a take from result unknown problem type, however, both the change and the result are not indicated leaving multiple responses as accurate.  Table 2: Addition and subtraction situations by grade • Optional: As appropriate in Sessions 1, 2, and 3 in this Module, consider provided your own materials for this lesson by using a piece of blue construction paper for the pond, a strip of brown construction paper for the log, and manipulatives to represent the frogs. Present students with problem types within the Kindergarten expectations indicated on the chart above such as: Add to – "There are 4 frogs in the pond. Three more frogs jump into the pond. How any frogs are in the pond now?" Take from – "There are 10 frogs sitting on the log. 4 frogs jump into the pond. How many frogs are left on the log?" Put together/Take apart – (see Problem 2) "There are 3 frogs on the log and 4 frogs in the pond. How many frogs are there in all?" Also, "There are 8 frogs in all. 5 of the frogs are in the pond and the rest of the frogs are on the log. How many frogs are on the log?" • Optional: Consider using Bridges problem types in Session 1, 2, and 3 as extension or challenge problems for students. • The referenced chart can be viewed here: K-5 Progression on Counting and Cardinality and Operations and Algebraic Thinking (p. 9) • Consider spending time engaging in discussion around explanations/justifications around one problem rather than glossing over all three problems. • Digital display support link on the Bridges web site Literature Connections: • *Frogs* by Gail Gibbons (builds background knowledge) *-continues on next page-*

		Number Corner Connections: • Dec. – May *Number Corner* months explore representing addition in various ways. • Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem is a developing concept. This concept is also explored in Jan., Mar., and May.
Module 3- Session 2: Story Problems, Part 2		
K.CC.5 K.CC.6 K.OA.1 K.OA.2 K.OA.4 K.OA.5 MP.1 MP.2 MP.3 MP.4 MP.5	Access Prior Learning and Connections to Future Learning: • Represent addition with objects, fingers, verbal explanations, expressions and equations is covered in Units 2,4,6,7, and 8. • Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem is also covered in Unit 6. • Working with equal groups of objects by pairing objects or counting them by 2s problem type is not mastered until second grade. • Work with compare problem types is not mastered until first grade. Developing the Big Idea and key Strategic Behaviors: • recognizing equivalence • using part/whole relationships between addition and subtraction • representing thinking Secure: • sense making	Guiding Questions: • How can I solve and represent problems using objects, pictures, words, and numbers? • How can strategies help us solve problems? How do you know when your answer makes sense? • How can you model a math problem with objects and pictures? Instructional Notes: • Visual models are ten-frames, pictures, and manipulatives. • Frogs Picture Problem 4 is for exploration only. This is a NVACS problem type of compare difference unknown problem type. • Frogs Picture Problem 5 is for exploration only. This is a multiplication or repeated addition NVACS Problem Type of Equal Groups and Number of Groups Unknown. • Optional: As appropriate in Sessions 1, 2, and 3 in this Module, consider provided your own materials for this lesson by using a piece of blue construction paper for the pond, a strip of brown construction paper for the log, and manipulatives to represent the frogs. Present students with problem types within the Kindergarten expectations indicated on the chart above such as: Add to – "There are 4 frogs in the pond. Three more frogs jump into the pond. How any frogs are in the pond now?" Take from – "There are 10 frogs sitting on the log. 4 frogs jump into the pond. How many frogs are left on the log?" Put together/Take apart – (see Problem 2) "There are 3 frogs on the log and 4 frogs in the pond. How many frogs are there in all?" Also, "There are 8 frogs in all. 5 of the frogs are in the pond and the rest of the frogs are on the log. How many frogs are on the log?" • Optional: Consider using Bridges problem types in Session 1, 2, and 3 as extension or challenge problems for students. • The referenced chart can be viewed here: K-5 Progression on Counting and Cardinality and Operations and Algebraic Thinking (p. 9) • Digital display tool link found on the Bridges web site. Number Corner Connections: • Dec. – May *Number Corner* months explore representing addition in various ways. • Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem is a developing concept. This concept is explored in Jan., Mar., and May. Writing and Enrichment: • Optional - *Home Connection* p. 12 and *Home Connection* tab pp. 187-189
Module 3- Session 3: Story Problems, Part 3		
K.CC.3 K.OA.1 K.OA.2 MP.1 MP.4 MP.5	Access Prior Learning and Connections to Future Learning: • Represent addition with objects, fingers, verbal explanations, expressions and equations is covered in Units 2,4,6,7, and 8. • Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem is also covered in Unit 6. • Working with equal groups of objects by pairing objects or counting them by 2s problem type is not mastered until second grade.	Guiding Questions: • How can I solve and represent problems using objects, pictures, words, and numbers? • How can strategies help us solve problems? How do you know when your answer makes sense? • How can you model a math problem with objects and pictures? Instructional Notes: • Visual models are ten-frames, pictures, and manipulatives. • Problem 1 is for exploration only. This is a multistep problem. First, it is an NVACs add to, result unknown problem. The next step is an equal groups and unknown product problem type. • Problem 2 is a multiplication or repeated addition NVACS Problem Type of Equal Groups and Unknown Product. • Problem 3 is a multiplication or repeated addition NVACS Problem Type of Equal Groups and Unknown Product. *-continues on next page-*

	• Work with compare problem types is not mastered until first grade. Developing the Big Idea and key Strategic Behaviors: • recognizing equivalence • understanding part/whole relationships between addition and subtraction Secure: • identifying hierarchical inclusion	• Problem 4 is for exploration only. This is a multistep problem. Students are introduced to the concept of part-whole relationships as they recognize that a set of objects 7 can be broken into smaller sub-sets (5 & 2) and still remain the total amount 7. Students work with a set of objects that a set of objects (7) can be broken in multiple ways (5 & 2, 4 & 3, 7 & 0). Thus, when breaking apart a set (decomposing), students use the understanding that a smaller set of objects exists within that larger set (inclusion). • Optional: As appropriate in Sessions 1, 2, and 3 in this Module, consider provided your own materials for this lesson by using a piece of blue construction paper for the pond, a strip of brown construction paper for the log, and manipulatives to represent the frogs. Present students with problem types within the Kindergarten expectations indicated on the chart above such as: Add to – "There are 4 frogs in the pond. Three more frogs jump into the pond. How any frogs are in the pond now?" Take from – "There are 10 frogs sitting on the log. 4 frogs jump into the pond. How many frogs are left on the log?" Put together/Take apart – (see Problem 2) "There are 3 frogs on the log and 4 frogs in the pond. How many frogs are there in all?" Also, "There are 8 frogs in all. 5 of the frogs are in the pond and the rest of the frogs are on the log. How many frogs are on the log?" • Optional: Consider using Bridges problem types in Session 1, 2, and 3 as extension or challenge problems for students. • The referenced chart can be viewed here: K-5 Progression on Counting and Cardinality and Operations and Algebraic Thinking (p. 9) Literature Connections: • *Mrs. Wishy Washy* by Joy Cowley Number Corner Connections: • Dec. – May *Number Corner* months explore representing addition in various ways. • Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem is a developing concept. This concept is explored in Jan., Mar., and May.
Module 3- Session 4: Story Problems Checkpoint		
K.OA.1 K.OA.2 MP.1 MP.4 MP.5	Access Prior Learning and Connections to Future Learning: • Represent addition with objects, fingers, verbal explanations, expressions and equations is covered in Units 2,4,6,7, and 8. • Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem is also covered in Unit 6. • Fluently add with sums to 5 is reinforced from Units 4 and 6. • Counting on, doubles strategies and known facts combinations to 10 is not mastered until first grade. Developing the Big Idea and key Strategic Behaviors: • recognizing equivalence • understanding part/whole relationships between addition and subtraction	Guiding Questions: • How can I solve and represent problems using objects, pictures, words, and numbers? • How can strategies help us solve problems? How do you know when your answer makes sense? • How can you model a math problem with objects and pictures? Instructional Notes: • Visual models are ten-frames, pictures, and manipulatives. Number Corner Connections: • Dec. – May *Number Corner* months explore representing addition in various ways. • Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem is a developing concept. This concept is also addressed in Jan., Mar., and May. Fluently add with sums to 5 is a developing concept. It is explored in Feb.-May also. Child Watching and Assessments: • Story Problem Checkpoint – (see p. 18-19 and T1). Also see scoring and reteaching suggestion in the Assessment Binder, Bridges Unit Assessments tab pp. 79-80. • Optional prompts that can be used instead of this Checkpoint problem, if desired – Prompt 1: Add to, result unknown problem type – Sam had 5 apples on the table. Mom gave him 3 more apples. How many apples does Sam have now? Prompt 2: Take from, result unknown problem type – Lisa had 9 blocks. She gave 5 to her sister. How many blocks does she have now? Prompt 3: Put together/take apart total unknown problem type - I have three blue balloons and 4 red balloons. How many balloons do I have in all? Prompt 4: Put together/take apart addend unknown - I have 9 pieces of fruit. 7 of them are apples and the rest are oranges. How many oranges do I have?
Module 3- Session 5: Cubes in My Hand		
K.OA.1 K.OA.2 K.OA.3 K.OA.5 MP.1	Access Prior Learning and Connections to Future Learning: • Decompose numbers less than or equal to 10 in pairs more than one way.	Guiding Questions: • What is an efficient way to count an amount greater than five? • What is an efficient strategy for counting five and some more? Instructional Notes: • Visual models are cubes and drawings for equations. *-continues on next page-*

MP.2 MP.5	Developing the Big Idea and key Strategic Behaviors: • understanding part/whole relationships between addition and subtraction • drawing and writing equations Secure: • recognizing equivalence • identifying combinations to 5	Literature Connection: • *Five Green and Speckled Frogs* Number Corner Connections: • Decompose numbers less than or equal to 10 in pairs more than one way and record is a developing concept. It is explored in all Oct-May. Writing and Enrichment: • *Home Connection* p. 24 and *Home Connection* tab pp. 191-192
Module 4- Session 1: Counting Sticks		
K.CC.1 K.CC.3 K.CC.7 K.NBT.1 MP.1 MP.2 MP.3 MP.7	Access Prior Learning and Connections to Future Learning: • Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., 18 = 10 + 8); and understand that these numbers are composed of ten ones and one, two, three… are addressed in Unit 8. Developing the Big Idea and key Strategic Behaviors: • using the ten-structure • grouping and unitizing • drawing and writing equations Secure: • using estimation	Guiding Questions: • What is an efficient way to count an amount greater than ten? • What is an efficient strategy for counting teen numbers? Instructional Notes: • Visual models are double ten-frame five-wise display cards, written equations, craft sticks. • Digital display tool link found on the Bridges web site. Literature Connections: • *The Masloppy Family* by Cathy Fosnot Number Corner Connections: • Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones are developing concepts. Addressed in Dec, Mar., & May.
Module 4- Session 2: Counting Dots		
K.CC.3 K.CC.5 K.CC.7 K.NBT.1 MP.1 MP.2 MP.4 MP.7	Access Prior Learning and Connections to Future Learning: • Compose and decompose numbers from 11 to 19 into ten ones and some further ones, is addressed in Unit 8. Working with the Big Idea and key Strategic Behaviors Developing: • using the ten-structure • drawing and writing equations Secure: • using estimation	Guiding Questions: • What is an efficient way to count an amount greater than ten? • What is an efficient strategy for counting teen numbers? Instructional Notes: • Visual models are double ten-frame pair-wise display cards, double ten-frame five-wise display cards, ten-frames, cubes, written equations. • See sidebar notes on p. 10 for student flexibility. Number Corner Connections: • Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones are developing concepts. Addressed in Dec, Mar, & May. Writing and Enrichment: • *Home Connection* p. 12 and *Home Connection* tab pp. 193-194
Module 4- Session 3: Counting Ten-Frames		
K.CC.3 K.CC.5 K.CC.6 K.CC.7 K.OA.1 K.NBT.1 MP.1 MP.2	Access Prior Learning and Connections to Future Learning: • Count to 100 by 10s is not a focus in other units. • Understand that the two digits of a two-digit number represent amounts of tens and ones for exposure only for kindergarten. • Compare two two-digit numbers based on meanings of the tens and ones digits, recording the	Guiding Questions: • How can we represent a number with tens and ones? • What is an efficient way of counting a large quantity of objects? • What strategy can we use to efficiently count a large quantity of objects? Instructional Note: • Visual models are ten-frame five-wise display cards, ten-frame dot cards, and written equation. Literature Connections: • *One is a Snail Ten is a Crab: A Counting by Feet Book* by April Pulley Sayre *-continues on next page-*

MP.7 MP.8	results of comparisons with the symbols >, =, and <. This is a first grade standard and for exposure only for kindergarten. Developing the Big Idea and key Strategic Behaviors: • using the ten-structure • drawing and writing equations	Number Corner Connections: • Count to 100 by 10s is a developing skill. This is addressed in Oct., Dec., Feb., Mar., Apr., & May. Writing and Enrichment: • Consider using the counting ten-frames game as an additional *Work Place*
Module 4- Session 4: Counting Stick Bundles		
K.CC.5 K.NBT.1 MP.1 MP.2 MP.4 MP.6 MP.7	Access Prior Learning and Connections to Future Learning: • Compose and decompose numbers from 11 to 19 into ten ones and some further ones is addressed in Unit 8. • Understand that the two digits of a two-digit number represent amounts of tens and ones is a first grade standard and for exposure only for kindergarten. • Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used are first grade standards and for exposure only for kindergarten. Developing the Big Idea and key Strategic Behaviors: • composing numbers beyond 20 Developing: • grouping and unitizing • using the ten-structure	Guiding Questions: • How can we represent a number with tens and ones? • What is an efficient way of counting a large quantity of objects? • What strategy can we use to efficiently count a large quantity of objects? Instructional Notes: • Visual models are ten-frame five-wise display cards and craft sticks. Literature Connections: • *One Hundred is a Family* by Pam Munoz Ryan Number Corner Connections: • Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones are developing concepts. Addressed in Dec., Mar., & May.
Module 4- Session 5: Counting Tens on the Hundreds Chart		
K.CC.1 MP.2 MP.7	Access Prior Learning and Connections to Future Learning: • Count to 100 by 10s is not a focus in other units. Developing the Big Idea and key Strategic Behaviors: • counting to 100 • grouping and unitizing • skip counting Secure: • recognizing number patterns	Guiding questions: • How can we represent a number with tens and ones? • What is an efficient way of counting a large quantity of objects? • What strategy can we use to efficiently count numerals that end in 0? • What patterns can be found on the number grid? Instructional Notes: • Visual model is the one hundred grid, craft sticks bundles. • Digital display tool link found on the Bridges web site. Literature Connections: • *Toasty Toes* by Michael Dahl • Piggies by Audrey Wood • *How Many Feet in the Bed?* by Diane Johnston Hamm Number Corner Connections: • Count to 100 by 10s is a developing skill. This is addressed in Oct, Dec, Feb, Mar, Apr, & May. Writing and Enrichment: • *Home Connection* p. 25 and *Home Connection* tab pp. 195-196

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