

► First Grade Unit 1: Numbers All Around Us

Big Conceptual Idea: [K-5 Progression on Counting and Cardinality and Operations and Algebraic Thinking](#) (pp. 1-7, 12-17), [K-5 Progression on Number and Operations in Base Ten](#) (pp. 1-4, 6-7), [K-6 Progression on Measurement and Data \(Measurement Part\)](#) (pp. 1-4, 8-11)

Read the *Introducing Bridges in Mathematics* section located in the beginning of the **Unit 1 binder prior to unit instruction**. This section provides an overview of the purposes and structure of the *Bridges* materials and includes Grade 1 specific characteristics of the **Mathematical Practices**.

Read the *Bridges Unit Overview/Introduction for each Unit, the Module Overview for the week's sessions, and the Session Summary* along with details for the teaching of each session. These *Introduction/Overview/Summary* sections provide focus, clarity, vocabulary, definitions, and examples that support the critical "big mathematical ideas and understandings". This information supports professional decision-making within the *Sessions and Modules* as needed.

Unit 1

Numbers All Around Us

20 sessions over 20 days

A/D/E Days: 2 days

NVACS Focus Domains: OANBT

Note: Incorporate time to help children rebuild routines for being a mathematician. They do this by engaging in mathematics through the mathematical practices.

Total Days: ~22

[1st Grade Curriculum Pacing Framework: Balanced Calendar](#)

<p>Mathematical Background: Read Bridges Unit 1 Overview and Introduction (pp. i-viii)</p>	<p>Essential Questions for teacher consideration: In order to support students' prior understandings of number sense and combinations to 10, what classroom expectations aligned to previous routines and learning from Kindergarten can I reestablish throughout our exploration and communication around numbers? How will I support flexible and strategic use of the number rack and the five- and ten-frame models in problem solving? How will I support connections from what students already know to their new learning?</p>
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Instructional note:

"If you learn something deeply, the synaptic activity will create lasting connections in your brain, forming structural pathways, but if you visit an idea only once or in a superficial way, the synaptic connections can "wash away" like pathways made in the sand." (Boaler, 2016, p. 1)

Aligned and cohesive quality instructional experiences across the elementary grades strengthen students' understandings and development. Therefore, continue to support a student-centered, problem solving, teacher-responsive model of mathematics instruction in which students are actively engaging in meaningful authentic encounters and doing much of the real thinking, working, and talking within the mathematics content. Provide meaningful, intentional, playful mathematics interactions that support the constructing of mathematical understanding from the first day of instruction!

Unit 1 continues students' prior understandings of early counting, number sense, and combinations to 10. Encourage strategic use of the number rack and 5- and 10-frames, moving beyond counting by 1s, and the use of subitizing. Reestablish math as a meaning-making time where students are able and expected to notice, think about, represent, and use numerals to solve problems. Consistently provide time for students to talk about their mathematics understandings, and explain and justify their own thinking.

Within the *Unit* students also have opportunity to extend their understanding of part/whole relationships (seeing and using both the whole and the parts), compose and decompose numbers, revisit length measurement, and continue to develop strong reasoning strategies. See *Unit 1 Introduction* (pp. ii-iii) for clarifications on the use of the number rack and other tools strategically used in this *Unit*.

Reestablishing classroom management and routine:

Throughout *Unit 1* and during *Number Corner Workouts* (Problems and Investigations, Work Places, Calendar Grid, Calendar Collector, Computational Fluency, Days in School, and Number Line):

- Engage students in thinking about and understanding the big ideas of the mathematics content expected in 1st Grade.
- "Rigor" using the *Bridges* instructional material is dependent upon how the teacher engages students in the activities and conversations of the *Sessions*. The depth and focus of the interactions, aligned with understanding of individual student need, provides for intensification of teaching which drives the development of each student.
- Reestablish routines and patterns of student engagement for active learning using the materials and the mathematics in *Bridges Units*. These routines and behaviors become the critical structures for your classroom management and student interactions.
- Reteach routines to independence. Carefully monitor during free exploration times for materials care and use. Establish the behaviors you need and want from the beginning. Stop and reteach if necessary!
- Engage students continually in the *Mathematical Practices* (NVACS, 2010, pp. 6-8) - persevering in making sense, thinking relationally and mathematically, explaining and justifying, applying what they know to other meaningful situations, using tools

appropriately and efficiently, working and communicating precisely, using patterns, and working efficiently. [Bridges Math Practice Posters](#).

- Engage in authentic conversations and problem solving around the content of the *Sessions* and *Workouts*.
- Use manipulatives, models, and representations to help make the mathematics visual, engaging, and fun for students.
- Support students’ development of strategic behaviors/strategies for problem solving. What are students thinking in their own heads and doing to “work” at solving the problem? What behaviors do they show independently at a point of error or confusion?
- Watch for development of strategic behaviors within the mathematics content by child watching and using the formative and formal *Bridges* assessments.
- Expect all students to engage in problem solving and in explaining and justifying their thinking.
- Math instruction is required a minimum of 73 minutes every day (WCSD, Instructional Minutes). *Bridges* recommends 90 minutes of math instruction for *Bridges Unit* and *Number Corner* interactions.

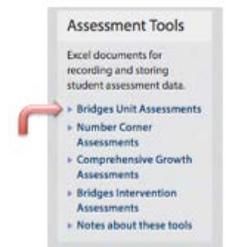
On-going enrichment:

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 (example: see *Unit 1*, p. v), and within other units and *Number Corner Workouts* across the year. This information supports your professional decision-making for instruction, intensification, and intervention.

Each *Work Place Guide* page offers suggestions for “Assessment and Differentiation” for individual student and English-Language Learner support (example: see Unit 1 Module 1 p. T7). Many *Work Place Guide* pages also provide ideas for “Game Variations” (e.g., see Unit 1 Module 1 p.T18). Also within each session are suggestions for “Support” and “Challenge” (e.g., see Unit 1 Module 1 Session 3 p. 17).

Consider use of the “A Year’s Worth of Assessments” chart (Assessment Guide, Assessment Overview tab pp.6-7) and the “Grade 1 Assessment Map” (Assessment Binder, Assessment Overview tab pp. 13-15) for assessment types and location throughout the year in *Bridges Units* and *Number Corner*. These assessments can be recorded and monitored on the “Class Checklist/Scoring Guide” provided in the:

- Assessment Guide (under the appropriate assessment tab)
- Teachers Guide (under the Teacher Masters tab)
- Number Corner binder (under the month)
- Or on the electronic spreadsheets available on the *Bridges Educator Site* website under the Implementation tab (see screen shot).



“Support & Intervention” information is also provided for all units in the *Assessment Guide* (e.g., see *Assessment Guide*, Bridges Unit Assessments tab, p. 3).

Family Letters and Overviews for each unit are also available on the [Bridges Educator website](#) in English and Spanish.

Consider using Catherine Fosnot’s [Landscape of Learning: Number Sense, Addition and Subtraction](#) to identify where students are on the landscape of big mathematical ideas, strategies, and use of models. Provide interactions for intensification and acceleration to move students up the landscape.

Essential Academic Vocabulary		
Use these words consistently during instruction.		
New Academic Vocabulary: (first time explicitly taught) <small>*indicates Word Resource Cards are available in the Bridges materials</small>	Review Academic Vocabulary: (Vocabulary from Number Corner or previous units)	
Picture graph* More than information	Add* Addition Pattern* Less than* Tally Equal* Equation*	Graph Subtraction Nickel* Penny* Length* Long/longer/longest* Short/shorter/shortest*

Additional terminology that students may need support with: Number rack, hundreds grid, number words (zero, one, two...etc. to ten), skip-count, ten-frame, question

***Collaborative Team Conversations (CTC)**

Consider using *one* of the following as part of the formative assessment process at the lesson level to **collect student work** to analyze for **evidence of mathematical understanding**:

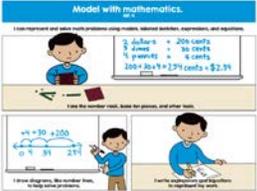
- Guiding questions:**
- “What strategies are students using to recognize and represent quantities within 10?” (number rack to 10-frame recording sheet and/or 10-frame dot cards to numeral)
 - “What interactions will support intensification for early counting and number sense understanding, if needed?”

Lesson	Evidence	Look for
U1M2S4 <i>Work Place 1F</i> <i>Flip & Write</i> Observation TG pp. 15-18, T1-T3	<i>Flip & Write Record Sheet</i> (TG U1M2S4 p. T2-T3)	Focus CTC around conceptual understandings of the big idea and strategies used: <ul style="list-style-type: none"> counting by 1s subitizing using 5 counting on recalling quantities and/or numerals quickly starting at 1 to identify a numeral
U1M2S5 <i>Quick Count Checkpoint</i> TG pp. 19-23	<i>Quick Count Checkpoint</i> student record sheet (TG U1M2S5 p.T5) <i>Quick Count Checkpoint Scoring Guide</i> (AG Bridges Unit Assessments pp. 5-6)	Focus CTC around conceptual understandings of the big idea and strategies used: <ul style="list-style-type: none"> counting by 1s subitizing using 5 counting on recalling quickly representing by other than 1s representing – placement and directionality

Learning Cycle Assessments (summative)	Unit 1 Group Assessment – U1M4S5 TG pp. 21-24, T6-T7; AG Bridges Unit Assessments pp. 7-8	Use <i>Unit 1 Group Assessment Scoring Guide</i> AG Bridges Unit Assessments p. 9
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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: Popsicle Pattern Chart, Part 1				
<p>1.OA 1.NBT</p> <p>MP.7 MP.8</p>	<p>Access Prior Learning:</p> <ul style="list-style-type: none"> Use discussion to find out students' schema about popsicles, specifically those with two sticks. You may want to find an image to show. <p>Beginning the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> counting by 2s <p>Developing:</p> <ul style="list-style-type: none"> exploring and communicating about patterns and numbers understanding the structure of numbers 	<p>Guiding Questions:</p> <ul style="list-style-type: none"> What patterns do you notice in our popsicle display? How do <i>Work Places</i> look and sound? <p>Instructional Notes:</p> <ul style="list-style-type: none"> Allow time for the instruction of routines and procedures. Take the time needed during the sessions and the <i>Work Places</i> to create the classroom environment, procedures, and establish expectations for listening to others as they communicate about numbers. Consider beginning <i>Work Places</i> by creating anchor charts for what they should look like and sound like. Add to these to support routines and behaviors. Try the online tools on the Educator Site for the Pattern Blocks. This is the link to the Bridges Educator website or the Math Learning Center public website here: poster. <p>Enrichment:</p> <ul style="list-style-type: none"> See Step 10 in lesson (p. 7). To support students' language development and discussion skills consider using the <i>Work Place Sentence Frames</i> on the Bridges Educator Site Bridges Educator website. <p>Child Watching:</p> <ul style="list-style-type: none"> Begin identifying any students struggling with cardinality, identification of numbers, or counting by ones. <div data-bbox="1312 1392 1511 1650" style="border: 1px solid black; padding: 5px;"> <p style="text-align: center; color: blue; font-weight: bold;">Math Stations</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; border: 1px solid black; padding: 2px;"> <p style="text-align: center; font-weight: bold; color: blue;">Look Like</p> <ul style="list-style-type: none"> • Kids working on math. • Partners working together. • Partners taking turns. • Children staying at their center. • Kids taking care of the materials. • Everyone cleaning up. </td> <td style="width: 50%; border: 1px solid black; padding: 2px;"> <p style="text-align: center; font-weight: bold; color: blue;">Sound Like</p> <ul style="list-style-type: none"> • Quiet voices. • Kids talking to their partner. • Kids talking about math. • Kids raising their hands if they need help. </td> </tr> </table> </div>	<p style="text-align: center; font-weight: bold; color: blue;">Look Like</p> <ul style="list-style-type: none"> • Kids working on math. • Partners working together. • Partners taking turns. • Children staying at their center. • Kids taking care of the materials. • Everyone cleaning up. 	<p style="text-align: center; font-weight: bold; color: blue;">Sound Like</p> <ul style="list-style-type: none"> • Quiet voices. • Kids talking to their partner. • Kids talking about math. • Kids raising their hands if they need help.
<p style="text-align: center; font-weight: bold; color: blue;">Look Like</p> <ul style="list-style-type: none"> • Kids working on math. • Partners working together. • Partners taking turns. • Children staying at their center. • Kids taking care of the materials. • Everyone cleaning up. 	<p style="text-align: center; font-weight: bold; color: blue;">Sound Like</p> <ul style="list-style-type: none"> • Quiet voices. • Kids talking to their partner. • Kids talking about math. • Kids raising their hands if they need help. 			

Module 1- Session 2: Popsicle Graph		
<p>1.MD.4</p> <p>MP.4</p> <p>MP.6</p>	<p>Access Prior Learning:</p> <ul style="list-style-type: none"> Kindergarten students used picture graphs frequently. <p>Developing the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> exploring and communicating about patterns and numbers understanding the structure of numbers organizing, representing, and interpreting data 	<p>Guiding Question:</p> <ul style="list-style-type: none"> What information does the popsicle graph tell you? <p>Instructional Notes:</p> <ul style="list-style-type: none"> Continue teaching procedures and routines with the new math manipulative, whiteboards and markers. Consider creating “sticks” to use when calling on students, and set the expectation that students are expected to be listening and be able to share in the discussion. Create the environment that all students have the chance to be called upon. You may also strategically choose students to share to better develop mathematics concepts. Use the sticks to keep track for yourself who you have not yet acknowledged and build opportunities to incorporate all student’s mathematical ideas. Establish wait time before selecting a student to respond to ensure all students have an opportunity to think. Lessons provide opportunities to engage in the math practices. Consider making this explicit to the students by explaining what they are doing as a mathematician. Pull out the math practice posters (found here). Read poster MP.4, and help them see the popsicle graph as modeling with mathematics. Hang the poster up to refer to in future lessons.  <p>Enrichment:</p> <ul style="list-style-type: none"> See Steps 9 and 10 in lesson (p. 14.). <p>Child Watching:</p> <ul style="list-style-type: none"> Identify students struggling with cardinality, identification of numbers, or counting by ones. Watch for students who count by ones and students who are counting by groups.
Module 1- Session 3: Popsicle Party		
<p>1.NBT.1</p> <p>MP.1</p> <p>MP.7</p>	<p>Access Prior Learning:</p> <ul style="list-style-type: none"> The number line was used in kindergarten. <p>Developing the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> understanding of structure and pattern of numbers to 120 counting forward and backward on the number line 	<p>Guiding Questions:</p> <ul style="list-style-type: none"> How can you determine if you have enough popsicle sticks for everyone? Will there be any left over? <p>Instructional Notes:</p> <ul style="list-style-type: none"> Consider using the online Number Line tools from the Educator Site. A geoboard app is also available through the Math Learning Center public website. Here is an App for a Geoboard. This is the first lesson of the year that poses a specific problem to investigate. Allow students to grapple with the problem on their own for a bit. Encourage students to access math tools and manipulatives for support. Consider setting various tools out where they are readily accessible. Refrain from jumping right in and showing students what to do. After students get started, consider pausing work to highlight strategies students are using. This provides support for students who may be struggling with an entry point to the problem. <p>Enrichment:</p> <ul style="list-style-type: none"> See Step 11 (p. 18). <p>Child Watching:</p> <ul style="list-style-type: none"> This is a great opportunity for you to assess who attacks the problem. Identify if students begin to use tools without prompting. Begin noticing what strategies students are using. Strategies to watch for include: counting all popsicles, counting all students, separating the extras (they might want to match them up with unifix cubes to count all extras); counting all popsicles, then counting on from the number of students to the number of popsicles to determine the difference; using a subtraction method, or counting down from the largest number. Be intentional in sharing student strategies. Choose a student to share the strategy with the least sophistication that many students are able to access. Next, choose a student with a more efficient strategy and discuss the two. Encourage students to try a new strategy learned.
Module 1- Session 4: Tally-Ho		
<p>1.NBT.1</p> <p>MP.7</p>	<p>Access Prior Learning:</p> <ul style="list-style-type: none"> While students have worked with count by 5s previously, this is not an assessed outcome until 2nd grade. 	<p>Guiding Question:</p> <ul style="list-style-type: none"> How can using tally marks help you count? <p style="text-align: right;"><i>-continues on next page-</i></p>

	<p>Developing the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> • understanding the structure and pattern of numbers • subitizing • counting forward and backward on the number line by 5s 	<p>Instructional Notes:</p> <ul style="list-style-type: none"> • See Math Practices in Action (p. 24). Link for MP poster is here. • The Flash and Build game provides opportunities for students to subitize, a critical skill in the development of number sense. Give students many opportunities to visualize and build quantities quickly (within 2-3 seconds). • Consider creating and reviewing as necessary a “what it looks like, and sounds like” anchor chart for Work Place expectations. You might review this chart before going to work places every day for the first few days and have students model the expectations for the others. Release a few at a time and ask the others to evaluate using hand signals how students are doing.  <p>Enrichment:</p> <ul style="list-style-type: none"> • See Step 15 (p. 26). <p>Child Watching:</p> <ul style="list-style-type: none"> • Identify student able to subitize and recreate numbers 1, 2, 3, 4, 5 with tally marks. • Continue watching for counting on strategies. Do they count all by 1s? Do they start from 5 and count on?
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Module 1- Session 5: Popsicle Pattern Chart, Part 2

<p>1.NBT.1</p> <p>MP.7</p> <p>MP.8</p> <p>MP.3</p>	<p>Access Prior Learning:</p> <ul style="list-style-type: none"> • Remind students of popsicle graph made earlier, and the hundreds grid used in kindergarten. <p>Beginning the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> • understanding the structure and pattern of numbers – hundreds grid 	<p>Guiding Question:</p> <ul style="list-style-type: none"> • What patterns do you see on the popsicle chart? <p>Instructional Notes:</p> <ul style="list-style-type: none"> • Establish expectations for using student books. • Encourage students to use Accountable Talk stems such as “I notice...”, “I believe...”, “I agree with...”, “I’d like to add onto...” etc. • Consider introducing the poster for MP.3 stating that mathematicians “talk and explain” while introducing Accountable Talk. <p>Enrichment:</p> <ul style="list-style-type: none"> • See Step 5 (p. 29). <p>Child Watching:</p> <ul style="list-style-type: none"> • Identify students who make connections to others’ work or ideas. Foster this with your connections. “Jenny are you noticing the same thing Jose noticed? Can you tell us more?”
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Module 2- Session 1: Show Me on the Number Rack

<p>1.OA.6</p> <p>Supports</p> <p>1.NBT</p> <p>MP.5</p> <p>MP.7</p>	<p>Access Prior Learning:</p> <ul style="list-style-type: none"> • Number racks were used in kindergarten to support understanding for KCC Standards. <p>Developing the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> • using 5 and 10 • composing 10 	<p>Guiding Question:</p> <ul style="list-style-type: none"> • How can the number rack represent numbers? <p>Instructional Notes:</p> <ul style="list-style-type: none"> • Number rack materials are not replaced by the District but are available to order through Bridges, or can be created with red and white beads, pipe cleaners, and cardboard or paper plates. • Consider repeating steps 12 and 13 with the number 10 (p. 6). • Consider trying the online tools from the Educator Site such as the Number Rack Tool. • Establish the understanding that students can choose to use the number rack tool at any time and have the tools accessible for student use as needed. <p>Enrichment:</p> <ul style="list-style-type: none"> • See Step 10 (p. 6). <p>Child Watching:</p> <ul style="list-style-type: none"> • Identify students who may struggle with counting or cardinality and provide additional support as needed. • Identify students who are beginning to compose “a ten”. • Identify students counting by 1’s or able to slide over 5 and then count on when making numbers larger than 5.
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Module 2- Session 2: Making Five & Ten

<p>1.OA.3</p> <p>1.OA.6</p> <p>MP.4</p> <p>MP.5</p>	<p>Access Prior Learning:</p> <ul style="list-style-type: none"> • Combinations within 5 were expected to be secure from kindergarten. <p>Developing the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> • composing 5 and 10 	<p>Guiding Question:</p> <ul style="list-style-type: none"> • What are the different ways we can make 5 (10) on the number rack? <p>Instructional Notes:</p> <ul style="list-style-type: none"> • The first Home Connection appears. See the WCSD homework policy here. • Home Connection materials may be used in a variety of ways (small guided math group, additional math center activity, etc.) as is appropriate for your students’ needs. <p style="text-align: right;"><i>-continues on next page-</i></p>
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	<ul style="list-style-type: none"> solving for unknowns 	<p>Enrichment:</p> <ul style="list-style-type: none"> See Step 7 (p. 10). <p>Child Watching:</p> <ul style="list-style-type: none"> Identify students struggling to represent combinations of 5. See support note (p.9).
Module 2- Session 3: Ten-Frame Flashes		
<p>1.OA.6</p> <p>MP.5</p> <p>MP.7</p>	<p>Access Prior Learning:</p> <ul style="list-style-type: none"> Many students in kindergarten developed perceptual subitizing of small quantities. <p>Developing the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> subitizing composing 10 	<p>Guiding Question:</p> <ul style="list-style-type: none"> How do you “see” the dots on the ten-frame without counting them all? <p>Instructional Notes:</p> <ul style="list-style-type: none"> From the K-5 Progression on Counting and Cardinality and Operations and Algebraic Thinking documents (p. 4) “The use of conceptual subitizing in adding and subtracting small numbers progresses to supporting steps of more advanced methods for adding, subtracting, multiplying and dividing single digit numbers.” This lesson is opportunity to deepen subitizing skills and move from perceptual to conceptual subitizing. Many lessons begin with a counting warm up. These daily counting practices are important to Numbers Base Ten development. You will notice that this warm up is a great precursor for the work on the number line in Unit 4. <p>Enrichment:</p> <ul style="list-style-type: none"> See Step 7 (p. 14). <p>Child Watching:</p> <ul style="list-style-type: none"> Identify students struggling with subitizing, meet with them in small group during Work Places. See support note (p. 14).
Module 2- Session 4: Introducing Work Place 1F Flip & Write		
<p>1.NBT.1</p> <p>1.MD.4</p> <p>MP.4</p> <p>MP.6</p>	<p>Access Prior Learning:</p> <ul style="list-style-type: none"> Work Place logs were optional in kindergarten. <p>Securing the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> subitizing recognizing and writing numerals 	<p>Guiding Questions:</p> <ul style="list-style-type: none"> How do you use your work place folder and log successfully? Can you recognize a number without counting all the dots? <p>Instructional Notes:</p> <ul style="list-style-type: none"> The Work Place Folder and Work Place Log are introduced today. The intention of the Work Place Log is to support independence and self-regulation. Ideas for structuring and managing Work Places can be found on the Educator Site. Here is one idea in establishing routines such as how many students per workplace. Provide each student with a clothespin, when each circle has a clothespin on it, students know that workplace is closed. Instruct students to quickly find another workplace for that is still open. See picture to right. Some teachers staple logs on to the back of the folder, adding one with each unit. Another idea is to use sleeves, with dry erase markers, and reuse logs each year. See picture. <p>Enrichment:</p> <ul style="list-style-type: none"> Work Place Game Variations (p. T2). <p>Child Watching:</p> <ul style="list-style-type: none"> Identify students struggling with writing numerals accurately. Provide feedback and opportunities to practice. Work Places are opportunities to observe and assess for student strengths and needs.
Module 2- Session 5: Quick Count Checkpoint		
<p>1.OA.6</p> <p>MP.5</p> <p>MP.7</p>	<p>Access Prior Learning:</p> <ul style="list-style-type: none"> Students wrote numbers from 0 to 20 and represent a number of objects with a written numeral in kindergarten. <p>Securing the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> subitizing reproducing quantities to 10 	<p>Guiding Questions:</p> <ul style="list-style-type: none"> How are you doing with counting small sets of objects quickly (subitizing)? What patterns do you see when you add 10 to a number? <p>Instructional Notes:</p> <ul style="list-style-type: none"> The Assessment Guide under the Bridges Unit Assessments tab provides the scoring guide for this checkpoint. <p>Enrichment:</p> <ul style="list-style-type: none"> Work Place Game Variation (p. T7). <p>Child Watching:</p> <ul style="list-style-type: none"> Use the scoring guide to formatively assess 1.OA.6 and decide instructional next steps.



Module 3- Session 1: Two Parts, One Whole

<p>1.OA.1 1.OA.6</p> <p>MP.4 MP.5</p>	<p>Access Prior Learning:</p> <ul style="list-style-type: none"> Add to/Result Unknown problem types within 10 were explored verbally and with drawings in kindergarten. <p>Beginning the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> recognizing number relationships understanding part/whole relationships solving for an unknown 	<p>Guiding Questions:</p> <ul style="list-style-type: none"> What do you notice? How many are in each part? What happens when you put the two parts together? <p>Instructional Notes:</p> <ul style="list-style-type: none"> Use the term “is the same as” simultaneously with “equals” (5 “is the same as” 4+1). This lesson provides opportunity for naming and explaining different strategies students use for counting two parts to determine the whole (counting all, counting on from a smaller a larger number, using a double, using 5 as a landmark, etc.). Record strategies on a class poster or anchor chart for students to reference during other problem solving. Strategically observe for and select students to explain their strategies from the most simple (counts all) to the more sophisticated. Encourage students to try a different strategy. Students will encounter 12 problem types in 1st Grade. <i>The K-5 Progression on Counting and Algebraic Thinking</i> (p. 13, linked above) states, “Students thus begin developing an algebraic perspective...They read to understand the problem situation, represent the situation and its quantitative relationships with expressions and equations, and then manipulate that representation if necessary, using properties of operations and/or relationships between operations. Linking equations to concrete materials, drawings, and other representations of problem situations affords deep and flexible understandings of these building blocks of algebra.” (see Table 2 on page 9 for examples.) <p>Enrichment:</p> <ul style="list-style-type: none"> See Step 7 (p. 7). <p>Child Watching:</p> <ul style="list-style-type: none"> Identify students struggling to model and solve stories using the number rack. Try craft sticks instead, or encourage the compensation strategy. See support note (pp.6-7).
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Module 3- Session 2: Show Me the Numbers

<p>1.OA.6 1.OA.8</p> <p>MP.4 MP.7</p>	<p>Access Prior Learning:</p> <ul style="list-style-type: none"> In kindergarten, students counted to 100, wrote numbers 0-20, and explored number relationships and quantities. <p>Developing the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> understanding the structure of number – counting by 10s subitizing composing to 10 	<p>Guiding Questions:</p> <ul style="list-style-type: none"> How many ways can you make 10? How do you know it is 10? <p>Instructional Notes:</p> <ul style="list-style-type: none"> Encourage students to show numbers in various ways, (6 can be 5 dots on top and 1 on bottom, 3 and 3, etc.). Model the language “parts and whole” during conversations to help students understand the relationships between the numbers. <p>Child Watching:</p> <ul style="list-style-type: none"> Step 12 provides an opportunity for formative assessment of students’ understandings (p. 13). Expect 100% of students to show you their thinking on their fingers. Consider having them hold their fingers over their heart to prevent students from waving fingers around. This will support all students’ processing and thinking on their own.
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Module 3- Session 3: Introducing Work Place 1H Which Coin Will Win?

<p>1.NBT.1 1.MD.4</p> <p>MP.4</p>	<p>Access Prior Learning:</p> <ul style="list-style-type: none"> Kindergarten students classified objects into given categories, and counted the number of objects in each category. <p>Securing the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> organizing, representing, and interpreting data comparing quantities <p>Developing the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> counting by 5s 	<p>Guiding Questions:</p> <ul style="list-style-type: none"> What do you know about pennies and nickels? How can a graph help you count? <p>Instructional Notes:</p> <ul style="list-style-type: none"> In 1st grade, coins are used as tools for developing mathematical understanding. Activities in the <i>Problems and Investigations</i> and <i>Number Corner</i> expose students to coins and their names, and use them as a means to practice counting by or from ones, fives, and tens. Consider having real money for students to manipulate and explore. Working with money in contexts is explored further in 2nd grade (2.MD.8). Emphasize the guiding questions to encourage student focus on the math concepts of counting by 1s and 5s, and comparison of quantities, rather than a focus on coins. The Educator Site provides all digital tools needed, such as spinners, to model and introduce Work Place games. Consider using the Number Corner money poems from September (Penny Poem and Nickel Poem) also located on the Educator Site.
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		<p>Enrichment:</p> <ul style="list-style-type: none"> • See challenge and Game Variations for Work Place 1H (pp. T2, T3). • Encourage student to count money at home in real life situations. <p>Child Watching:</p> <ul style="list-style-type: none"> • Identify students struggling to count and compare the coins on the graph.
Module 3- Session 4: Quick! Look!		
<p>1.OA.5 1.OA.6 1.NBT.1</p> <p>MP.4 MP.7</p>	<p>Access Prior Learning:</p> <ul style="list-style-type: none"> • Perceptual subitizing and cardinality were dealt with extensively within the KCC Standards. <p>Developing the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> • subitizing • using 5 and 10 as landmark numbers 	<p>Guiding Question:</p> <ul style="list-style-type: none"> • How do you “see” the number? <p>Instructional Note:</p> <ul style="list-style-type: none"> • Students may struggle with the conceptualization of 20. Deepen understanding of cardinality to ten by focusing on just the top 10 beads and covering the bottom row. <p>Enrichment:</p> <ul style="list-style-type: none"> • See Step 7 (p. 22). <p>Child Watching:</p> <ul style="list-style-type: none"> • Identify students using the strategy of 5 and 10 as a landmark number. Highlight the efficiency and effectiveness of using 5 as an anchor number to determine the total numbers of beads.
Module 3- Session 5: Measuring with Popsicle Sticks		
<p>1.NBT.1 1.MD.1 1.MD.2</p> <p>MP.4 MP.6</p>	<p>Access Prior Learning:</p> <ul style="list-style-type: none"> • Kindergarten students discriminated between measureable attributes such as big, tall, long, or high. • Kindergarten students measured and compared two objects by the number of iterated units. <p>Developing the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> • measuring with nonstandard measure • organizing, representing, and interpreting data 	<p>Guiding Questions:</p> <ul style="list-style-type: none"> • How can popsicle sticks be used to measure objects? • What rules could you make when using sticks to measure objects? <p>Instructional Notes:</p> <ul style="list-style-type: none"> • Highlight Math Practice 6 - attend to precision. Consider introduce the Math Practice 6 poster, which can be found on the Educator Site. • Common mistake students make when measuring: not lining up their measurement tool to the very beginning of the item being measure; not understanding that gaps in-between popsicle sticks will result in inaccurate measurement; having the tool curve around the shape being measured, as opposed to making a straight line. • Consider marking their height initially on the wall with a piece of tape, then creating a length of string as a truly “linear” length to represent the length of their body. Then measure the string on the floor, laying sticks in a straight line. Discussions about the differences between their original measurement and the new measurement might be used to bring out partial understanding of measurement. • Consider using standardized units for early measuring, such as popsicle sticks or cubes, which are consistently the same length. “Early use of many non-standard units may actually interfere with student’s development of basic measurement concepts required to understand the need for standard units.” See the clarifications in the <i>K-6 Progression on Measurement and Data (Measurement Part)</i> p. 9 linked above. <p>Child Watching:</p> <ul style="list-style-type: none"> • Identify students attending to precision with their measurement. • Identify students with gaps, overlays, or crooked measurement attempts.
Module 4- Session 1: Number Rack Detectives		
<p>1.OA.4 1.OA.5 1.OA.6 1.OA.8</p> <p>MP.2 MP.5</p>	<p>Access Prior Learning:</p> <ul style="list-style-type: none"> • Students worked on missing addends in Module 3 Session 1. Connect back to the two parts, one whole lesson. <p>Beginning the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> • understanding part/whole relationships • solving for the unknown with addition and subtraction • subitizing 	<p>Guiding Questions:</p> <ul style="list-style-type: none"> • What do you know and what do you want to find out? • What information are you missing? <p>Instructional Note:</p> <ul style="list-style-type: none"> • Attend to Math Practices in Action (p. 5), Consider introducing MP.2 poster. <p>Enrichment:</p> <ul style="list-style-type: none"> • See Step 12 (p. 7). <p>Child Watching:</p> <ul style="list-style-type: none"> • Identify students counting by 1s from the beginning. Encourage the strategy of subitizing the top row, conserving the number, and counting on.

Module 4- Session 2: Introducing Work Place 1 Measuring with Unifix Cubes		
<p>1.MD2</p> <p>MP.5 MP.6</p>	<p>Access Prior Learning:</p> <ul style="list-style-type: none"> Student measured with popsicle sticks. <p>Developing the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> comparing lengths measuring with units 	<p>Guiding Questions:</p> <ul style="list-style-type: none"> What do you know about measuring? If you measure with different units do you get the same measurement? <p>Instructional Notes:</p> <ul style="list-style-type: none"> Exploring the idea that measurement iterations will increase or decrease the quantity of units may come up in this session. Laying out copies of the same size unit and counting the units is called iteration (Van de Walle, et al., 2014, p. 272). For clarification read the K-6 Progression on Measurement and Data (Measurement Part), p. 9. <p>Enrichment:</p> <ul style="list-style-type: none"> See the Challenge on the Work Place Guide (p. T2). <p>Child Watching:</p> <ul style="list-style-type: none"> Identify students attending to precision with their measurement. Identify students with gaps, overlays, or crooked unifix trains and remind them to attend to precision.
Module 4- Session 3: How Long is the Jump Rope?		
<p>1.NBT.1 1.MD.2</p> <p>MP.4 MP.6</p>	<p>Access Prior Learning:</p> <ul style="list-style-type: none"> Connect to prior sessions measuring with popsicle sticks. <p>Developing the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> comparing lengths measuring with units 	<p>Guiding Questions:</p> <ul style="list-style-type: none"> How can you measure the jump rope using just your feet? How long do you think the jump rope is using the teacher's foot to measure? <p>Instructional Note:</p> <ul style="list-style-type: none"> This lesson uses the nonstandard unit of measurement of human feet, which are not consistently the same size. Using the same foot repeatedly can mimic a standardized unit, however, the concept that different size feet will result in different numbers of units may challenge some students' understandings. "First grade students can learn that objects used as basic units of measurement (e.g. "match-length") must be the same size." (K-6 Progression on Measurement and Data (Measurement Part), p. 9). <p>Enrichment:</p> <ul style="list-style-type: none"> See the <i>Extensions</i> note in the lesson (p. 16). Have a student with a smaller foot count the length of the jump rope. Discuss why the results from the student foot measurement is different from the teacher foot. <p>Child Watching:</p> <ul style="list-style-type: none"> Identify students attending to precision with their measurement Identify students with gaps and overlays.
Module 4- Session 4: Quick! Look! Plus One, Minus One		
<p>1.OA.5 1.OA.6 1.NBT.1</p> <p>MP.4 MP.7</p>	<p>Access Prior Learning:</p> <ul style="list-style-type: none"> Connect to prior work with perceptual subitizing and cardinality (last word said represents the whole amount). Refer to understanding developed in Quick! Look! Mod. 3 Session 4. <p>Developing the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> recognizing the structure of numbers using 5 and 10 as landmark numbers using +1 or -1 strategies 	<p>Guiding Question:</p> <ul style="list-style-type: none"> How can you see the number of beads without counting each one? <p>Instructional Note:</p> <ul style="list-style-type: none"> Powerful student conversations are critical throughout each session. Engage students in mathematically focused conversations. As Parrish (2010) states in her book <i>Number Talks</i>, "Accuracy denotes the ability to produce an accurate answer; efficiency refers to the ability to choose an appropriate, expedient strategy for a specific computation problem; and flexibility means the ability to use number relationships with ease in computation" (p. 5). Encourage these conversations by focusing on questions in step 9 (p. 20). <p>Enrichment:</p> <ul style="list-style-type: none"> See Step 7 (p. 22). <p>Child Watching:</p> <ul style="list-style-type: none"> Identify students using the strategy of 5 and 10 as a landmark number. Highlight the efficiency and effectiveness of using 5 as an anchor to determine the total numbers of beads.

Module 4- Session 5: Unit 1 Group Assessment		
<p>1.OA.5 1.OA.6 1.NBT.1</p> <p>MP.2 MP.7</p>	<p>Access Prior Learning:</p> <ul style="list-style-type: none"> Connect to prior work with subitizing, combinations to 5 and 10, counting by 1s and 10s, and reading and writing numbers. <p>Securing the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> composing 5 <p>Developing the Big Idea and key Strategic Behaviors:</p> <ul style="list-style-type: none"> composing 10 using 5s and 10s as landmark numbers recognizing the structure of number to 60 by 1s, and 10s 	<p>Guiding Question:</p> <ul style="list-style-type: none"> What strategies can you use when counting and adding numbers? <p>Instructional Notes:</p> <ul style="list-style-type: none"> Optional: See the online Assessment Tools found here. Download the <i>Bridges Unit Assessments</i> to enter scores digitally and produce a color-coded spreadsheet. When considering taking a grade note, none of these standards in their entirety is meant to be secure at this time (mastered). These ideas are still developing. Assessment Binder (pp. 13-15). Note the Grade 1 Progress Report found in your Assessment Binder (p. 36) and identify how 1.OA.6 is broken down to "Adds and Subtracts to 10, and so on. This breakdown of the standards will support you in making decisions for grade collection. <p>Child Watching:</p> <ul style="list-style-type: none"> Refer to the Assessment Tool Scoring Guide Refer to Assessment Binder Support and Intervention (p. 3). Watch for students struggling with: rote counting to 20 starting at numbers other than 1; one-to-one correspondence and cardinality to 20; quickly recognizing quantities to 5 or 6 in scattered formation; or quantities to 10 on a ten-frame; and/or reading and writing numerals.

Assessment Tools

Excel documents for recording and storing student assessment data.

- » Bridges Unit Assessments
- » Number Corner Assessments
- » Comprehensive Growth Assessments
- » Bridges Intervention Assessments
- » Notes about these tools

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