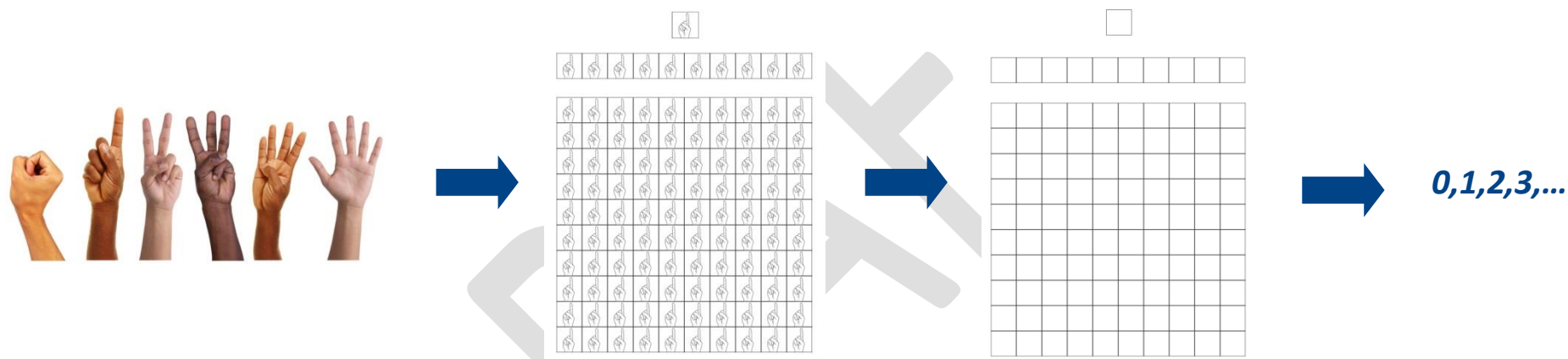


Numeracy Skills Pre-Assessment Activity

The purpose of this pre-assessment activity is to establish a common understanding of how to use the finger and number manipulatives associated with the *SLIFE Numeracy Skills Assessment Exemplar*.

The following graphic illustrates this goal in a snapshot.






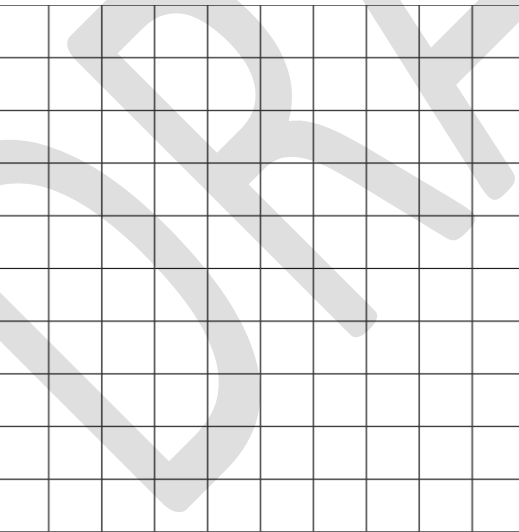
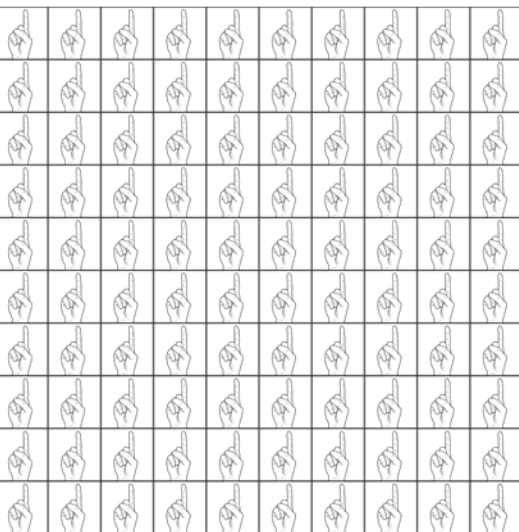


Note: While engaging in the calibration activity, students may also exhibit grade-level numeracy skills. Although assessing grade-level numeracy skills is **not** the main intent of the calibration activity and establishing **one-to-one correspondence** is, the grade-level standards that embed these numeracy skills are identified as a supplementary goal in this **exemplar**.

Before beginning: Study the [Calibration Key](#) (the goal of the activity) on page 2; become familiar with the [Numeracy Skills Progression Chart](#) (particularly the estimated grade level of the student) referenced on page 11; and look over the [finger](#) cards (pages 12–13) and the [base ten](#) cards (pages 14–15). Sample Workspace Mats to perform the activities are also provided throughout the document.

Calibration Key

The table below represents the relationship between the two card sets.

	Base Ten Cards	Finger Cards
0 "zero"	Gesture by showing empty space.	
1 "ones"		
10 "tens"		
100 "hundreds"		

**The graphic representation of a zero in base ten and finger card does not exist and is represented as an empty cell.*

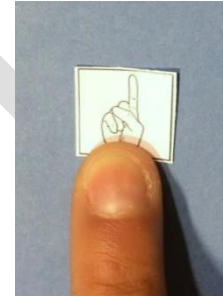
Part A: Establishing a Common Understanding by Connecting “Real Fingers” with “Finger Cards”

Activity Description: This activity is an interactive session wherein the proctor uses his or her fingers to show the relationship between their real fingers and the finger cards.

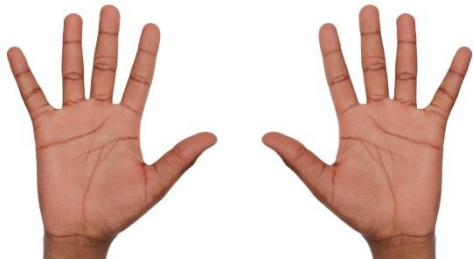
Moves in this activity would include the proctor holding one finger up in the air and pointing explicitly to the “ones” finger card; holding ten fingers in the air and then tapping on the ten finger cards using one finger for every cell in the ten finger card. **The proctor may also have the student do the same.**



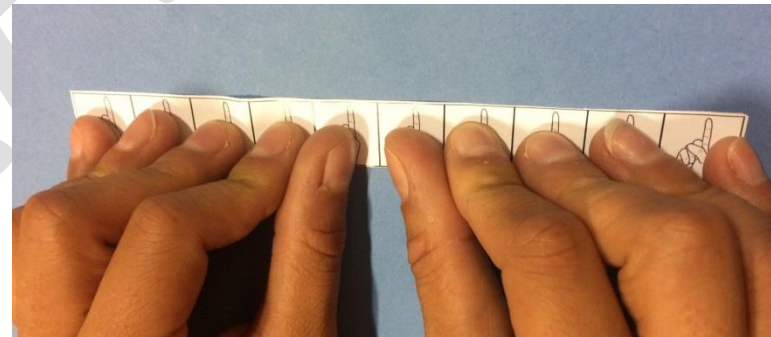
Move One: Hold up one finger.



Move Two: Point to the one finger card.




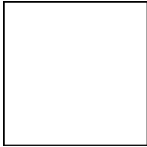


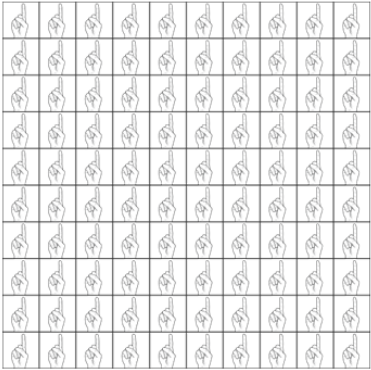
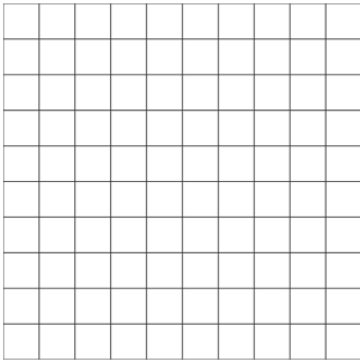

Move One: Hold up ten fingers.



Move Two: Point to the ten finger card.


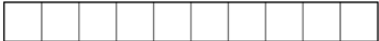

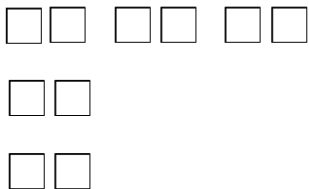
Part B: Matching Card “I Do” Activity

The following example illustrates the “I Do” Matching Card Activity. Add on similar items to the assessment as deemed necessary. The proctor and student sit across the table. The proctor uses both decks of cards to establish the relationship between the base ten cards and finger cards. **Note:** The proctor may select other manipulatives (e.g., Unifix® cubes, base ten blocks.)

Proctor Move One (“I Do”)	Proctor Move Two (“I Do”)	Proctor Moves Description
		<p>Move One: Proctor selects a “ones” finger card and places it in Workspace One.</p> <p>Move Two: Proctor selects a “ones” base ten card and places it in Workspace Two.</p>
		<p>Move One: Proctor selects “tens” finger card and places it in Workspace One.</p> <p>Move Two: The proctor pulls out a “tens” base ten card and places it in Workspace Two.</p>
		<p>Move One: Proctor pulls up a “hundreds” finger card and places in Workspace One.</p> <p>Move Two: The proctor pulls out a “hundreds” base ten card and places in Workspace Two.</p>
<p>No picture Gesture by hand nothing.</p> 	<p>No picture Gesture by showing empty space.</p>	<p>Move One: Proctor gestures “nothing” and points to Workspace One, indicating “zero.”</p> <p>Move Two: Proctor gestures “nothing” and points to Workspace Two, indicating “zero.”</p>



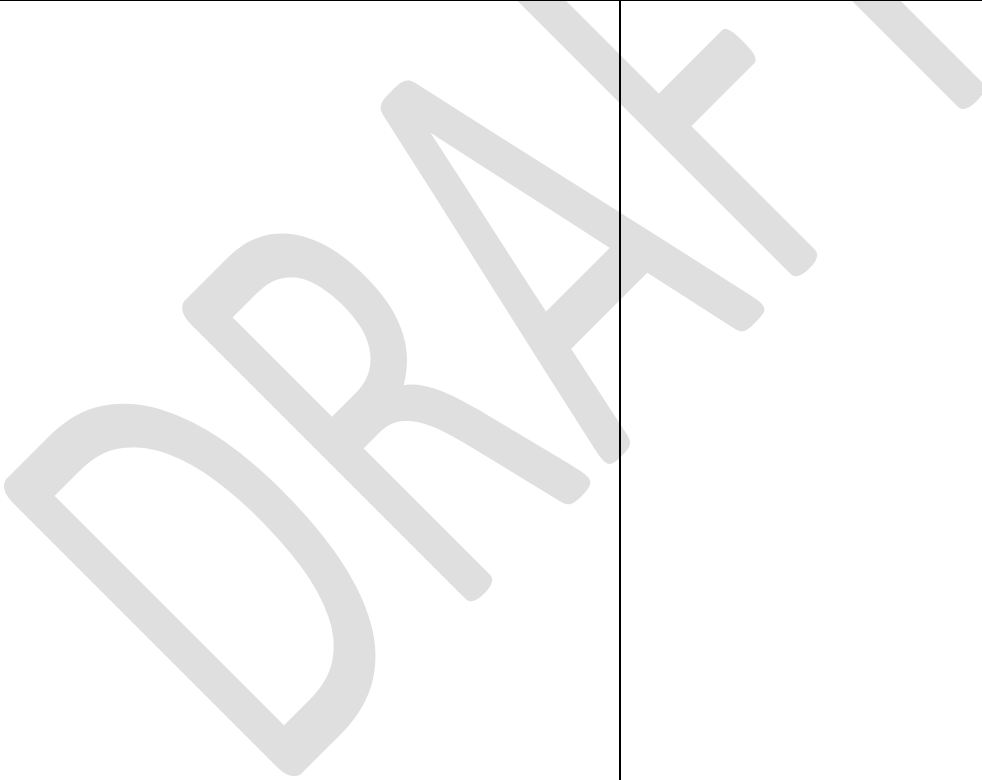
Part C: Matching Card “I Do - You Do” Activity

The following example illustrates the “I Do - You Do” Matching Card Activity. Add on similar items to the assessment as deemed necessary. The proctor and student sit across the table. The proctor uses the finger cards and the student uses the base ten cards.

Move One (Proctor “I Do”)	Move Two (Student “You Do”) <i>Possible student responses (not an exhaustive list); placed in Workspace Two</i>	Student Response Description	Secondary Goals (skills embedded in grade-level standards)	Notes/ Observations
<p>Move One: Proctor places a “tens” finger card in Workspace One.</p> 	<p>A.</p>  <p>B.</p>  <p>C.</p> 	<p>Move Two: If student response is A, then goal of question has been achieved. <hr/> If student response is B, then proctor prompts with, “show another way” until student demonstrates A. <hr/> If student response is C, then proctor prompts with, “show another way” until student demonstrates A. <hr/> Note: All these responses are correct and show that the student possesses the underlying numeracy skills embedded in the grade four content standards. Assessment of these skills is called out in the <i>secondary goals</i> column.</p>	<p>4. OA (Generate and analyze patterns, gain familiarity with factors and multiples; use the four operations with whole numbers to solve problems.)</p> <p>4. MD (Solve problems involving measurement and conversion from larger to smaller unit.)</p>	<p>Student placed ten ones but grouped by twos... demonstrates underlying grade-level numeracy skills.</p>





Workspace Mat for Part C: Matching Card “I Do - You Do” Activity

Note: We recommend making your own Workspace Mat to accommodate the size of the cards.

Workspace One (Proctor “I Do”) 	Workspace Two (Student “You Do”) 
	

Part D: Mixed Matching Card “I Do & You Do” Activity




The following example illustrates the **Mixed Matched “I Do - You Do” Activity**. Add on similar items to the assessment as deemed necessary. The proctor and student sit across from the table. *Note: For this activity, the proctor uses base ten and finger cards. However, the student’s response is restricted to the use of base ten cards only. The restriction to base ten responses involves a more complex thinking process and demonstrates understanding of the activity.*

Move One (Proctor “I Do”)	Move Two (Student “You Do”) <i>Possible student responses</i> <i>(not an exhaustive list);</i> <i>placed in Workspace Two</i>	Student Response Description	“Secondary” Goals (numeracy skills embedded in grade-level standards)	Notes/ Observations
<p>Move One: Proctor places a 100 flat from base ten cards and one “tens” finger card in Workspace One.</p>  	<p>A.</p>  <p>B.</p> 	<p>Move Two:</p> <p>If student response is A, then goal of question has been achieved.</p> <hr/> <p>If student response is B, then proctor prompts with, “show another way” until student demonstrates A.</p> <hr/>	<p>4. OA (Generate and analyze patterns, gain familiarity with factors and multiples; use the four operations with whole numbers to solve problems.)</p> <p>4. MD (Solve problems involving measurement and conversion from larger to smaller unit.) <i>Note: This depends on student response.</i></p>	<p>Student placed 11 base ten ...demonstrating grade-level embedded numeracy skills (factors and multiples)...</p> <p>Student shows numeracy skills that may be below grade level...</p>

Move One (Proctor “I Do”)	Move Two (Student “You Do”) <i>Possible student responses (not an exhaustive list); placed in Workspace Two</i>	Student Response Description	“Secondary” Goals (numeracy skills embedded in grade-level standards)	Notes/ Observations
	<p>C.</p> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"><input type="checkbox"/></div><div style="width: 50%;"><input type="checkbox"/></div> <div style="width: 50%;"><input type="checkbox"/></div><div style="width: 50%;"><input type="checkbox"/></div> <div style="width: 50%;"><input type="checkbox"/></div><div style="width: 50%;"><input type="checkbox"/></div> <div style="width: 50%;"><input type="checkbox"/></div><div style="width: 50%;"><input type="checkbox"/></div> <div style="width: 50%;"><input type="checkbox"/></div><div style="width: 50%;"><input type="checkbox"/></div> <div style="width: 50%;"><input type="checkbox"/></div><div style="width: 50%;"><input type="checkbox"/></div> <div style="width: 50%;"><input type="checkbox"/></div><div style="width: 50%;"><input type="checkbox"/></div> <div style="width: 50%;"><input type="checkbox"/></div><div style="width: 50%;"><input type="checkbox"/></div> <div style="width: 50%;"><input type="checkbox"/></div><div style="width: 50%;"><input type="checkbox"/></div> <div style="width: 50%;"><input type="checkbox"/></div><div style="width: 50%;"><input type="checkbox"/></div> <div style="width: 50%;"><input type="checkbox"/></div><div style="width: 50%;"><input type="checkbox"/></div> <div style="width: 50%;"><input type="checkbox"/></div><div style="width: 50%;"><input type="checkbox"/></div> <div style="width: 50%;"><input type="checkbox"/></div><div style="width: 50%;"><input type="checkbox"/></div> <div style="width: 50%;"><input type="checkbox"/></div><div style="width: 50%;"><input type="checkbox"/></div> <div style="width: 50%;"><input type="checkbox"/></div><div style="width: 50%;"><input type="checkbox"/></div> </div>	<p>If student response is C, then proctor prompts with, “show another way” until student demonstrates A.</p> <hr/> <p>Note: All these responses are correct and show that the student possesses the underlying numeracy skills embedded in the grade four content standards. Assessments of these skills are called out in the <i>secondary goals</i> column.</p>		

Workspace Mat for Part D: Mixed Matching Card “I Do & You Do” Activity

Note: We recommend making your own Workspace Mat to accommodate the size of the cards.

Workspace One (Proctor “I Do”) 	Workspace Two (Student “You Do”) 
	

Numeracy Skills Progression Chart



MA Mathematics Framework Progression Chart

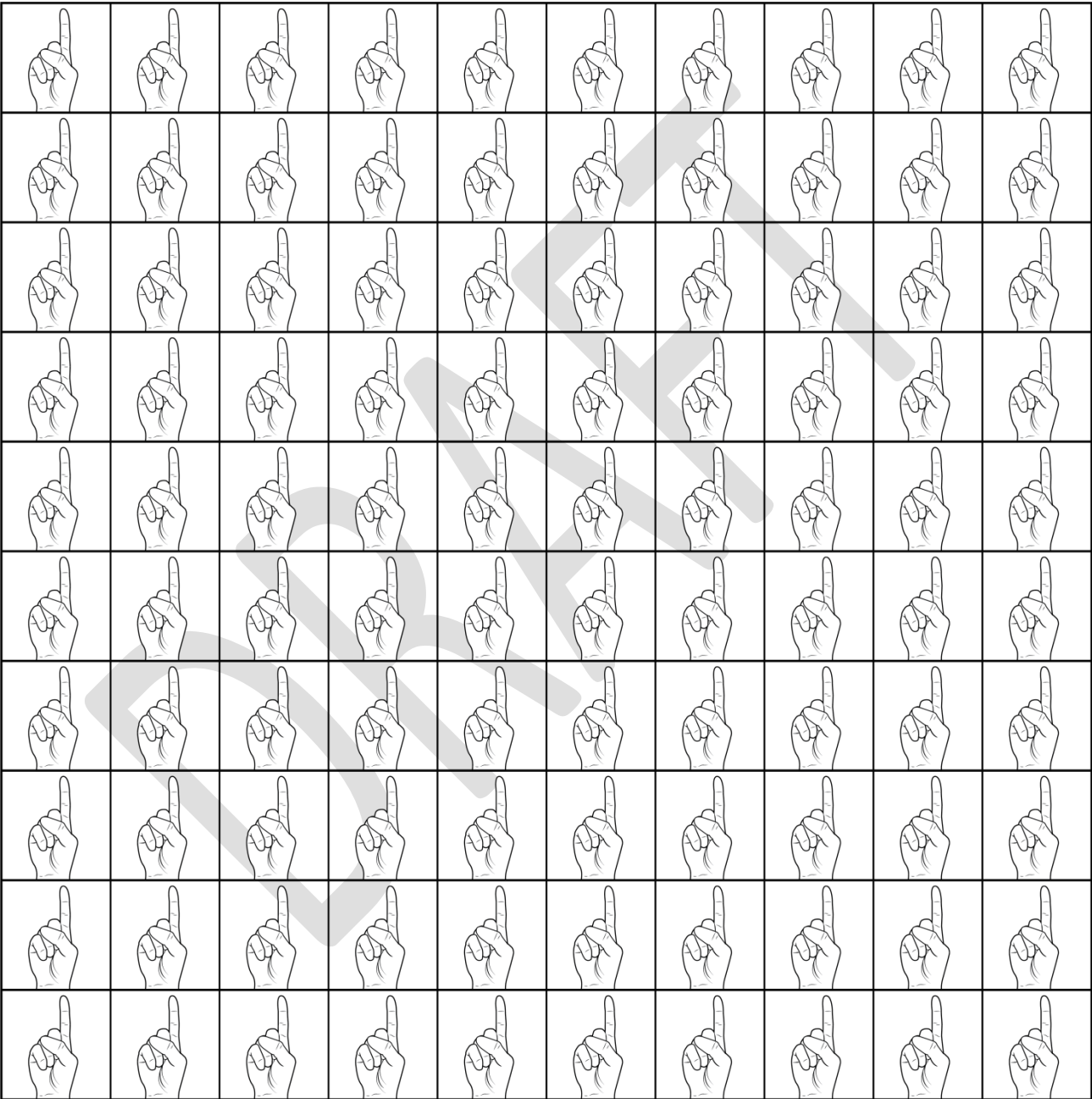
	PK	K	1	2	3	4	5	6	7	8
Counting & Cardinality	Counting & Cardinality									
Operations & Algebraic Thinking	Operations & Algebraic Thinking	Operations & Algebraic Thinking	Operations & Algebraic Thinking	Operations & Algebraic Thinking	Operations & Algebraic Thinking	Operations & Algebraic Thinking	Operations & Algebraic Thinking			
	Number & Operations in Base Ten	Number & Operations in Base Ten	Number & Operations in Base Ten	Number & Operations in Base Ten	Number & Operations in Base Ten	Number & Operations in Base Ten	Number & Operations in Base Ten			
					Number & Operations - Fractions	Number & Operations - Fractions	Number & Operations - Fractions	Number & Operations - Fractions	Number & Operations - Fractions	Number & Operations - Fractions
							The Number System	The Number System	The Number System	The Number System
Measurement & Data	Measurement & Data	Measurement & Data	Measurement & Data	Measurement & Data	Measurement & Data	Measurement & Data	Measurement & Data	Expressions & Equations	Expressions & Equations	Expressions & Equations
										Functions
Geometry	Geometry	Geometry	Geometry	Geometry	Geometry	Geometry	Geometry	Geometry	Geometry	Geometry
								Statistics & Probability	Statistics & Probability	Statistics & Probability

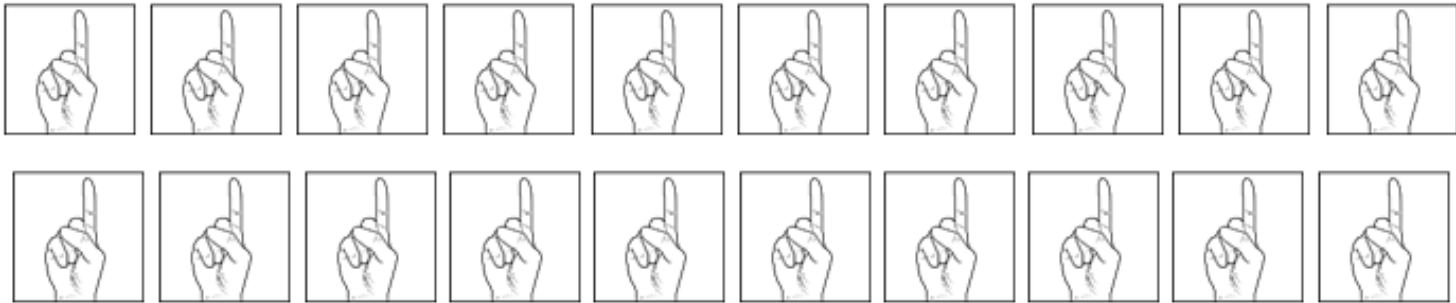
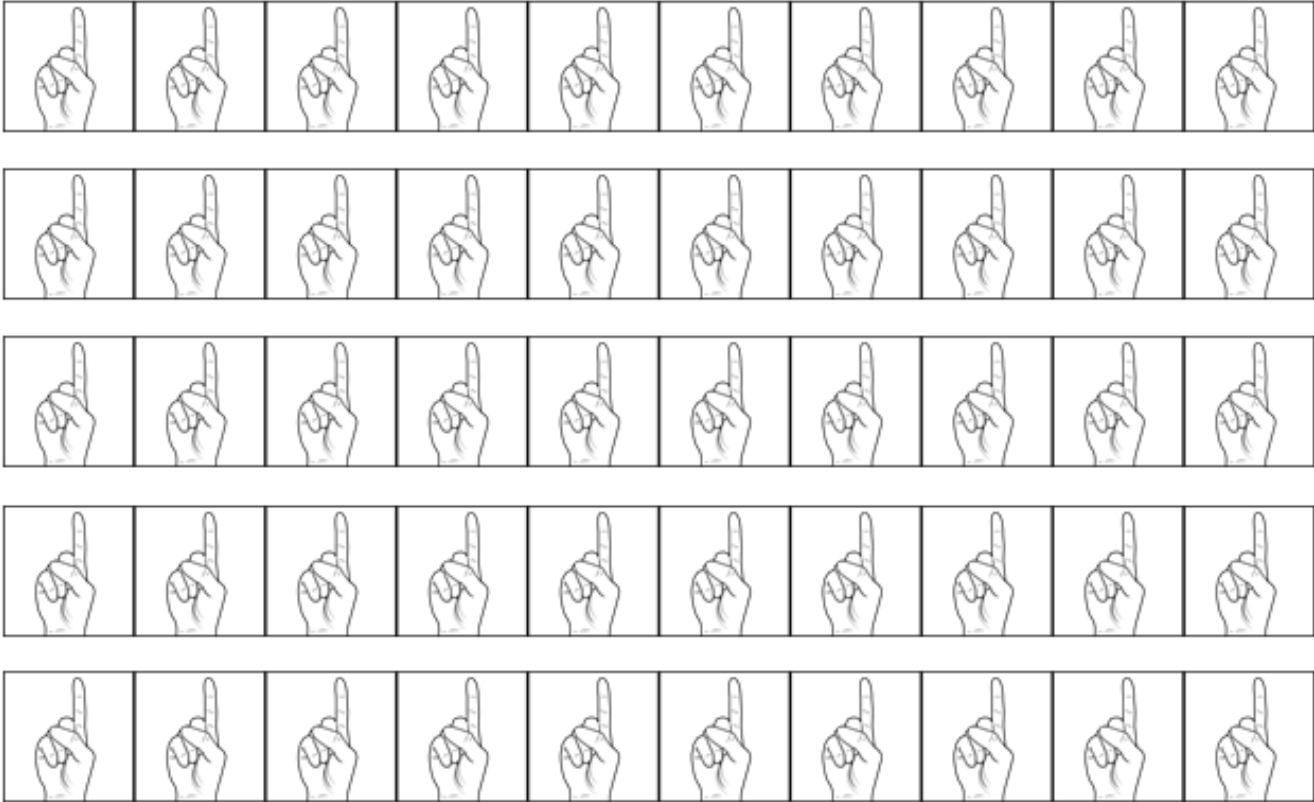
1 Identify expected grade level

4

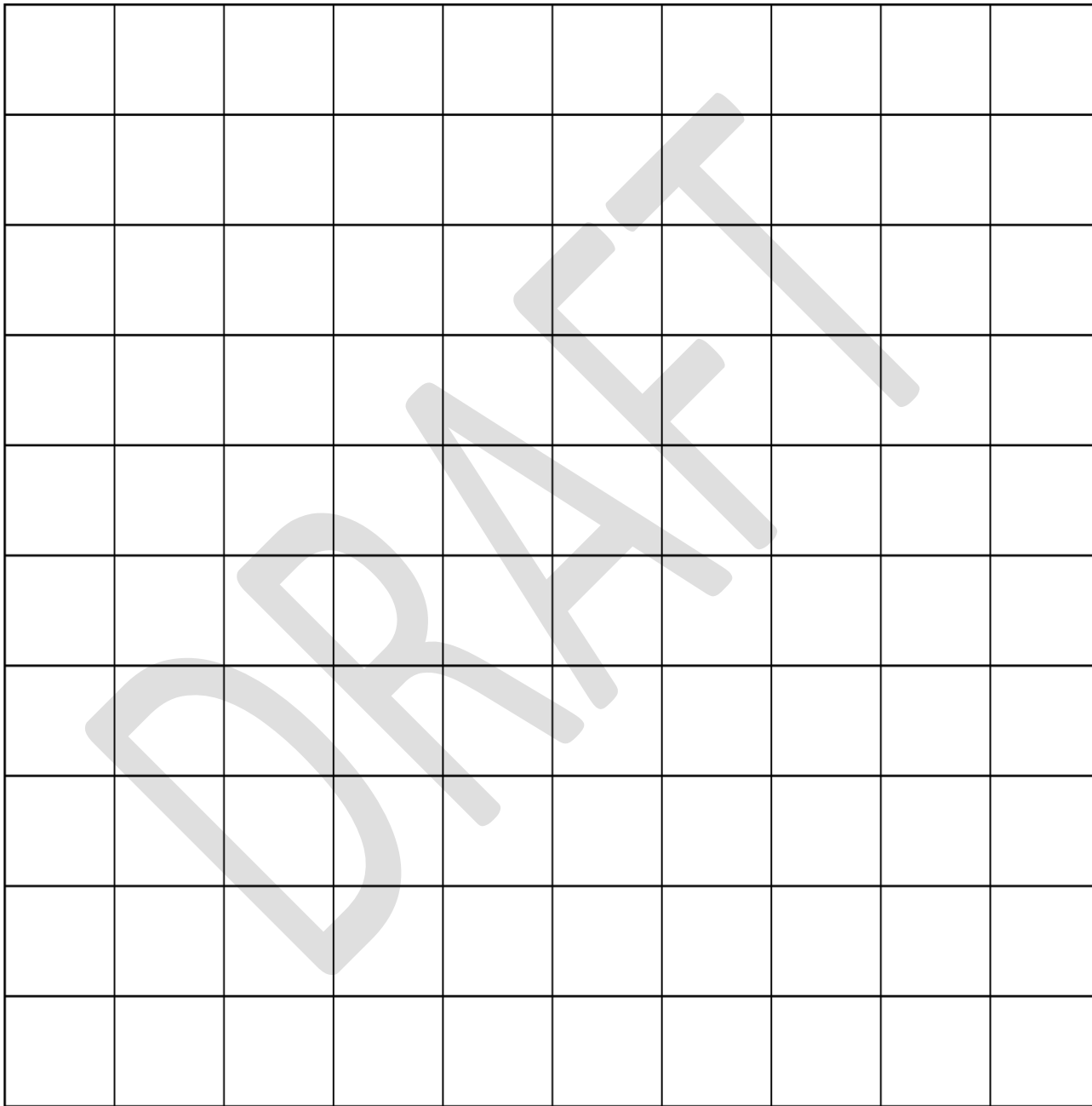
Review grade-level domains

Finger Cards Black Line Master





Base Ten Black Line Master



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