MILE Math Interactive Learning Experience

Class: _____   Student: _____   Teacher/Observer: _____   Observation #: _____

Math Observation Assessment Tool

Concepts	Checklist		Suggestions for Remediation	
	Option A:	**Option B:**	**Specific:** (guides you to tables to help you identify errors students make and activities you can do based on the errors)	**General:** (guides you to some of the Classroom Activity Pages found within the broader concept areas)
	A = Needs attention B = May need attention C = Does not need attention **N/A = not applicable**	Ø = not present E = emerging ☑ = present **N/A = not applicable**	**Corresponding Error Analysis Tables** (relevant tables listed below in **blue**)	**Corresponding Classroom Resources**

Size	☐ Big
	☐ Bigger
	☐ Biggest
	☐ Large
	☐ Larger
	☐ Largest
		☐ Small
		☐ Smaller
		☐ Smallest
		☐ Little
		☐ Medium
			Numbers and Operations (N)
			  [**1**, **4**, **5**, **9**]
			Patterning and Algebra (PA)
			  [**1**, **2**]
			Measurement (M)
			  [**1**, **2**, **3**, **4**, **5**]
			Geometry (G)
			  [**1**, **6**]
			Data Management and Probability (DMP)
			  [**2**, **3**]
				Measurement-area
				
				Measurement-height/length
				
				Measurement-time

				Ordering
Shape	☐ Square ☐ Triangle ☐ Circle ☐ Rectangle	☐ Diamond ☐ Oval ☐ Star ☐ + ☐ X	**Patterning and Algebra (PA)** 　[1, 2, 3, 5] **Measurement (M)** 　[1] **Geometry (G)** 　[1, 2, 3, 4, 5, 6] **Data Management and Probability (DMP)** 　[3]	**Shapes**
Quantity	☐ Many ☐ More ☐ Some ☐ Same as ☐ Lots	☐ Less ☐ All ☐ Equal ☐ Few ☐ Most ☐ None	**Numbers and Operations (N)** 　[2, 3, 4, 5, 6, 　7, 8, 9, 10, 11, 12] **Patterning and Algebra (PA)** 　[1, 2, 3, 4, 5] **Measurement (M)** 　[1, 2, 3, 4, 5] **Geometry (G)** 　[1, 2] **Data Management and Probability (DMP)** 　[2, 4, 5, 6]	**Measurement-area** **Measurement-quantity** **Measurement-weight** **Sorting-matching**
Patterns: **Sorting- Categorizing**	☐ A – B ☐ A – A – B ☐ A – B – C ☐ A – B – C – D	☐　Sorting ☐　Categorizing ☐　Organizing	**Numbers and Operations (N)** 　[1, 4, 8] **Patterning and Algebra (PA)** 　[1, 2, 3, 4] **Measurement (M)** 　[2, 3, 4] **Geometry (G)** 　[1, 3, 5, 6]	**Graphs** **Patterns** **Ordering**

		Data Management and Probability (DMP) [2, 3, 5, 6]	Sorting
			Sorting-categorizing
			Sorting-matching
			Sorting-same/different
Counting	☐ **Comparison** (Knowing which of two sets has more without counting) ☐ **Counting** (Rote counting with separate words, not necessarily in the correct order) ☐ **Subitizing** (perceiving number without counting) ☐ **One-to-One Correspondence** (saying one number for each object counted) ☐ **Cardinality** (knowing what the last word is when counting a set) ☐ **Hierarchical Inclusion** (knowing that smaller numbers are parts of bigger numbers) ☐ **Number Conservation** (knowing that the number of objects remains the same even when they are arranged and rearranged) ☐ **Compensation** (seeing parts of the whole and then compensating) ☐ **Unitizing** (knowing that numbers can be arranged in groups, which can in turn be counted as individual units)	**Numbers and Operations (N)** [1, 2, 3, 4, 5, 6, 7, 8, 9] **Patterning and Algebra (PA)** [2, 3, 4] **Geometry (G)** [1, 4] **Data Management and Probability (DMP)** [1, 2, 3, 4]	**Counting**

Sequencing/Planning	☐ First — next — last ☐ Beginning — middle — end	• Before — after • Yesterday — today — tomorrow	**Numbers and Operations (N)** [1, 4] **Patterning and Algebra (PA)** [1, 2, 3] **Geometry (G)** [2, 4, 5] **Data Management and Probability (DMP)** [2, 3, 4, 5]	**Ordering** **Patterns**
Number Writing	☐ Write numbers from 1 to 10 ☐ Write numbers from ___ to ___		Use **"Write Numbers Assessment Sheet"** to support your teaching.	**No classroom activity pages in MILE.**
Position	☐ Up ☐ Down ☐ Above ☐ Under ☐ Below ☐ Between ☐ Next to ☐ Beneath ☐ In front of	☐ Behind ☐ Beside ☐ Near ☐ Far ☐ Beginning ☐ Middle ☐ End ☐ Right ☐ Left	**Numbers and Operations (N)** [4] **Patterning and Algebra (PA)** [1, 2] **Measurement (M)** [2, 3, 4] **Geometry (G)** [5, 6] **Data Management and Probability (DMP)** [1]	**Ordering** **Patterns**
Symbolic Understanding	☐ + means: "to put together" (plus) ☐ — means: "to take away" (minus) ☐ = is the same as (equals) ☐ x means: "counting by equal groups" (times) ☐ ./. means: "separate in equal groups" (divide)	☐ Recognize number vs. letter ☐ Recognize number shapes 1 to 10 ☐ Recognize numbers shapes 1 to 100 ☐ Recognize number shapes > 100	If this checklist shows a gap in understanding symbols, work on the weaker symbol skills while doing exercises you chose to improve other skills. For instance, you can emphasize recognizing and understanding signs when	**No classroom activity pages in MILE.**

			working on addition or subtraction.	
Addition and Subtraction	☐ Understand: adding is joining two or more collections together ☐ Understand: a quantity can be thought of in parts (Part-Part-Whole) ☐ Explain addition thinking out loud ☐ Addition facts: up to 10 ☐ Addition facts: up to 20 ☐ Regrouping ☐ Applied Problem Solving (i.e., word problems) ☐ Place value: 10's ☐ Place value: 100's ☐ Place value: 1000's	☐ Understand: understand that subtraction is taking away, and the difference between two numbers ☐ Explaining subtraction thinking out loud ☐ Subtraction facts: up to 10 ☐ Subtractions facts: up to 20 ☐ Regrouping ☐ Applied problem solving (i.e., word problems)	**Numbers and Operations (N)** [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11] **Patterning and Algebra (PA)** [3, 4, 5] **Data Management and Probability (DMP)** [1, 2]	**Addition/Subtraction**
				Measurement
				Number Line
				Place Value
				Regrouping
Multiplication and Division	☐ Understand that multiplication is when we repeat equal quantities ☐ Multiplication tables ☐ Strategies for single-digit multiplication ☐ Strategies for multiple-digit multiplication ☐ Understand: that division is the inverse of multiplication ☐ Divide a number among equal groups ☐ Equal groups with remainder ☐ Strategies for single-digit division ☐ Strategies for long division		**Numbers and Operations (N)** [7, 9, 12] **Patterning and Algebra (PA)** [3, 4, 5] **Data Management and Probability (DMP)** [5]	**Graphs**
				Measurement
				Multiplication/Division
				Sorting

				Fractions
Cognitive Foundational Skills	**Take in Information** ☐ Focused perception ☐ Systematic Exploration ☐ Correct orientation in space ☐ 2+ pieces of information ☐ Consider all available information	**Process Information** ☐ Recognize problem - spontaneously ☐ Recognize problem - after being told ☐ Attend to relevant information **Communication Information** ☐ Responds after thinking it through	Use the **"Eight Cognitive Foundation Skills"** and **"Suggestions for Remediating Cognitive Foundational Skills"** sheets to support your teaching.	**No classroom activity pages in MILE.**