Foundations of Math Observation Tool for Classroom Teacher

Teacher(s):	School:	Preconference Date:
Observation Date:	Year teacher completed FoM:	Observation ☐1 ☐2 ☐ 3
Time:	Observer:	Grade Level(s):
Content, Program or Strategy (i.e. NumberWorlds, Math I, etc):	Level (if applicable):	Class Period:
# students in group:	# Model Lesson Completed (if applicable):	Co-Taught Lesson: YES / NO
Sum of Observed Items (a):	Number of Observed Items (b):	Average Score (Sum of observed items divided by the number of observed items a/b):

The teacher has completed the following course(s): Check all that apply.

☐ Co-Teaching-Going Beyond Basics ☐ FoM ☐ Trained in Program/Strategy by a certified instructor

- The observation should last through the entire lesson. ****Space is provided at the end of this form for additional comments*
- All items will not be observed within one classroom visit.
- If completing the form as an NC SIP site for fidelity data collection, the observer using the tool should have completed the All Leaders: FoM Overview and/or completed Level 1 of FoM.
- While observing the teacher, do not coach the teacher during the observation. This information can be used for coaching after the visit is complete.

❖ SCALE - **RATING 0** = *Skill not demonstrated/Missed opportunity;* **Rating 1** = *Improperly implemented*; **Rating 2** = *Somewhat properly implemented*; **Rating 3** = *Appropriately Implemented*. Leave the rating **BLANK** if the skill was NOT APPLICABLE to the observation. *(TR= Numerical Teacher Rating SR= Numerical Student Rating)*

The lesson utilizes language that attends to precision, is mathematically accurate and adequately scales to higher level mathematics.				
TR	***Teacher evidence, examples and vital behaviors seen in the classroom***	***SR***	***Student evidence, examples and vital behaviors seen in the classroom***	***Comments***
	Promoting discourse, growth mindset, and perseverance through productive struggle		Perseverance and discourse using math tools such number lines, base ten blocks, and visual models connected to computation	
	Uses language of equal value as opposed to "same as" for the equal sign		Language that always attends to precision (same value, composing and decomposing, tens vs one's vs hundreds and the relationship of power of ten)	
	Mathematical language is accurate and connects to the components of number sense without fostering misconceptions that may expire in upper grades mathematics		Discourse that demonstrates the student recognizes and make use of patterns and/or structures	
	Conceptual understanding that fosters the ability to reason and communicate mathematically		Reasons abstractly, as well as quantitatively and communicates that to others	

	Engages students in discourse and activities that improve number sense		Students reason and respond to the thinking of others	
	Heterogeneous grouping of students with teacher-facilitated questions that promote rigorous dialogue and understanding		Use of symbols and words to describe and explain math, as well as construct arguments	
Making connections between math concepts, the components of number sense and to previous learning; encouraging students to build their own understanding.				
TR	***Teacher evidence, examples and vital behaviors seen in the classroom***	***SR***	***Student evidence, examples and vital behaviors seen in the classroom***	***Comments***
	Promotes understanding of the importance of derived facts to solve computation problems		Uses derived facts to solve computational problems and can explain why	
	Mathematical properties are embedded within content and components of number sense (not definitions to be memorized)		Uses mathematical properties to solve problems and explain why they work	
	Models, uses think aloud, and components of number sense to promote the connections between data and its meaning		Represents data in mathematically appropriate ways and interprets data with accurate justifications	
	Teaches place value as a system and not just a place		Recognizing place value system not just as a place	
	Mathematical situations/structures (not key words) are taught explicitly		Can explain and model using mathematical situations/structures to solve word problems	
	Emphasizes part-whole relationships and conservation of units		Grouping and attention is given to units, recognizes part-whole relationships	
	An underlying story structure or context that is connected across multiple models to develop the concepts		Can develop and use stories to connect to the mathematical procedures in a mathematically accurate way (prove/disprove claims)	
	Instruction builds on what they already know through use of think aloud, models, and components of number sense		Frequently makes connections between and among situations/concepts with repeated practice	
	Connections of counting numbers to objects counted - accurate language that conserves quantity and magnitude and equality		Makes mathematically accurate connections of counting numbers to objects counted	

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	Teaches flexible forms for computation and multiple ways of regrouping and forms of the value		Can compute and reason using decomposing/composing, partial products, concrete multiplication, different forms of an equal value and proportional reasoning	
	Teaches the relationship between components of number sense		Utilizes and references previously learned concepts to develop a more complex deeper understanding	
Evidence of all three, concrete, representational and abstract in the lesson, ability for students to access information at all three levels of understanding.				
TR	***Teacher evidence, examples and vital behaviors seen in the classroom***	***SR***	***Student evidence, examples and vital behaviors seen in the classroom***	***Comments***
	Ongoing formative assessment and high-quality feedback		Monitors own progress and seeks feedback	
	Teaches multiple ways to represent concepts and solve problems		Extension of ideas by using more than one strategy or explain the current strategy with words and mathematically accurate visuals	
	Mathematical models (both concrete and visual) are appropriately introduced and taught explicitly		Application of a variety of appropriate concrete and visual mathematical models for concepts	
	Entry point of the lesson includes a concrete display of the concepts		Displays multiple ways to represent concepts and solve problems	
	Teacher displays understanding of number sense by fostering the use of mental math and the mental number line		Student displays number sense by using mental math Student displays number sense by using a mental number line	
	Meaning of addition, subtraction, multiplication and division algorithms are displayed concretely, visually and abstractly		Uses concrete, representational, and abstract models with understanding instead of just procedures to solve problems	
	Focus on conceptual understanding and not just a procedure		Reasoning behind algorithms is stated or displayed	
	Base Ten Frame/Mat		Base Ten Frame	
	Graphs		Graphs	
	Hundreds Board		Hundreds Board	

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	Base Ten Blocks		Base Ten Blocks	
	Fraction Strips/Bars/Tiles		Fraction Strips/Bars/Tiles	
	Array Models		Array Models	
	Chips		Chips	
	Unifix Cubes		Unifix Cubes	
	Tallies		Tallies	
	Situation Structures		Situation Structures	
	Number Bonds		Number Bonds	
	Number Lines		Number Lines	
	Subitizing		Subitizing	
	Money Exchanges		Money Exchanges	
	Pawns and Number Cubes/Hands on Equations		Pawns and Number Cubes/Hands on Equations	
	Visual Representations		Visual Representations	
	Concrete Multiplication Mat		Concrete Multiplication Mat	

Teacher Rating:

Sum of Observed Items: _____ Number of Observed Items: _____ Avg. (Sum of observed items divided by the number of observed items a/b): _____

Student Rating:

Sum of Observed Items: _____ Number of Observed Items: _____ Avg. (Sum of observed items divided by the number of observed items a/b): _____

Transfer Strengths:

Next Steps: