**Mathematics Classroom Observation Guide**

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| **I.** **Classroom culture is conducive to learning mathematics.** | **II. Math content is Intellectually engaging.** |
| **A. Ideas, questions, and contributions are exchanged respectfully.**   * |\_| Teacher and students interact respectfully. * |\_| Students interact collegially. * |\_| Students listen actively and ask for clarification when they don’t understand.   **B. Discussions are based on sound mathematical reasoning.**  |\_| Students use supporting and refuting claims to inform reflection and  discourse.  |\_| Students rely on their own thinking and logical arguments to evaluate  ideas.  |\_| Students explain, question, and critique their own understanding.  |\_| Student use examples and evidence to challenge ideas and | **A. Math content is significant, accurate, and worthwhile.**  |\_| Math content is explicit and apparent to students.   * |\_| Math content is primarily focused on big ideas supported by relevant concepts, procedures, reasoning, and applications. * |\_| Math content is clearly aligned with at least one standard for mathematical practice. * |\_| Math content is consistent with the CACSM. * |\_| Math content is accurate. * |\_| Math content is developmentally appropriate and scaffolded appropriately. * |\_| Math is portrayed as coherent, focused, and rigorous. * **B. Math content builds on students’ prior ideas or experiences.** |
| inferences.  |\_| Students differentiate between and among personal, informal, and  mathematical ways of knowing.  **C. Math content is made accessible to each student.**  |\_| Content and instruction is adjusted based on the background  knowledge and skills of each student.  |\_| Explanations and clarifications are clear, accurate, and accessible to  each student.  |\_| Spoken and unspoken messages communicate that each student is  capable of learning math content knowledge. | |\_| Students reveal their preconceptions about the math content,  the underlying related concepts, or the nature of mathematics.  |\_| Students reveal their underlying thinking and reasoning and the  source of their preconceptions.  |\_| Students recognize links between their preconceptions or  previously learned math concepts and the activities or  experiences in the math lesson.  **C. Math content is intentionally connected to the classroom activities**  **and experiences.**  |\_| Student actions and interactions focus on understanding |
| |\_| Each student actively participates in thinking and learning.  |\_| Each student experiences problems that ultimately lead to new  insights.  |\_| Each student experiences mathematically productive struggles and  perseveres. | important and relevant math content.   * |\_| Students generate and explore questions about the math in the lesson. * |\_| Students can articulate the intended math content of a lesson, activity, or experience. |

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| **III. Instruction fosters and monitors deep student understanding of mathematics**  **A. Instruction fosters students’ emerging understanding of math content.**   * |\_| Students are confronted with examples that challenge their initial * ideas as opportunities for productive struggle. * |\_| Questions enhance the development of students’ understanding of key concepts connected to the lesson. * |\_| Clear and accurate explanation/clarification are provided at * appropriate points. * |\_| Opportunities are provided for students to build on their present * understanding as they develop new understandings.   |\_| Student-generated questions are pursued based on their  relevance to the math content and their potential to deepen  student understanding.  **B. Instruction monitors students’ emerging understanding of math**  **content.**   * |\_| Student ideas are recognized, even when they are vaguely * articulated. * |\_| Responses to student questions or comments address the * mathematical idea expressed in their thinking and relate it to the * focus of the lesson. * |\_| Learning experiences are modified or added to ensure students   develop the necessary mathematical content knowledge.  |\_| Instruction incorporates appropriate formative assessment  strategies, thus, permitting the teacher to adjust teaching and  learning in ways that improve students’ attainment of learning  targets and goals. | **IV. Students organize, relate, and apply their mathematical knowledge**  **A. Students make sense of the intended mathematical ideas and concepts.**  |\_| Students work on answering mathematical questions or solving  problems and communicate their findings in precise terms using  appropriate tools.  |\_| Students clarify their own ideas, observations, reasoning, models,  and explanations.  |\_| Students self-monitor the accuracy of their understanding and  revise their ideas based on mathematical reasoning and examples.  |\_| Students recognize changes in their initial ideas and cite  experiences and/or evidence that led to them.  |\_| Students describe the difficulties they confronted in developing  new and more accurate understanding.  **B. Students reflect on their own understanding of the mathematical content.**   * |\_| Students engage in private think time to reflect on the content * within the lesson. * |\_| Students reflect critically on their own and each other’s processes, * reasoning, and explanations. * |\_| Students discuss what they understand and don’t understand about   the intended content.  **C. Students make connections between the math content in the current lesson and prior experiences.**  |\_| Students articulate a purpose for the content beyond the immediate  classroom lesson.   * |\_| Students make multiple connections to what they already know or * to applications in real world contexts. * |\_| Students apply what they learn beyond the context of the original * problem. * |\_| Students connect the mathematical ideas to everyday life. |

**CLASSROOM DEBRIEF**

**List or describe areas of strengths and concerns.**

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| **I. Was my class conducive to learning mathematics?** | **II. Was the math content I just taught Intellectually engaging to my students?** |
| **III. Did my instruction foster and monitor deep understanding of mathematics?** | **IV. Were my students able to organize, relate, and apply their mathematical knowledge?** |

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Signature of Student Teacher/Intern Signature of University Supervisor Signature of Cooperating Teacher

**LESSON DETAILS**

**Number of Students: \_\_\_\_\_\_\_ Class Observed: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Time of Observation: \_\_\_\_\_\_\_\_\_\_\_\_**

**Lesson Sequence:**