**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.**
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|  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.
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**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:**