MATHEMATICS LESSON OBSERVATION RUBRIC Spring 2018

Teacher Candidate: _____ Observation No. _____

Lesson Date: _____ Lesson Topic: _____

Observed by: _____

This rubric is intended to be used to provide feedback to the Teacher Candidate (TC) on the planning, implementation, and success of a single lesson. It is recommended that you take notes while watching the lesson. After observing the lesson, circle the statement that best describes what you have observed.

I. Design of Instruction	Exceptional (Target)	Proficient (Acceptable)	Needs Improvement (Unacceptable)
Lesson objectives	Lesson addresses appropriate learning goals that are aligned to the Common Core Mathematics Standards and Practices. Objectives are clear, measurable, performance-based, and relate to important concepts and/or skills.	Lesson addresses appropriate learning goals that are aligned to the Common Core Mathematics Standards and Practices. Objectives may need re-wording, but are mostly clear, measurable, and performance-based.	Lesson does not address appropriate learning goals or is not aligned to the Common Core Mathematics Standards and Practices. Objectives are unclear, and may not be measurable, performance-based, or relate to important concepts and/or skills.
Technology	TC has incorporated mathematics-specific and instructional technologies where appropriate in order to build all students' conceptual understanding and procedural fluency.	TC has incorporated some mathematics-specific and instructional technologies where appropriate, but other technologies could sometimes be used to build all students' conceptual understanding or procedural fluency.	Incorporation of mathematics-specific and instructional technologies is minimal and could be used to build student understanding.
Developmentally appropriate practice	TC incorporates developmentally appropriate mathematical activities and investigations that require active engagement in building new knowledge throughout the lesson.	TC incorporates developmentally appropriate mathematical activities and investigations that require active engagement.	Activities are developmentally inappropriate for students or have students as passive recipients throughout the lesson .
Strategies and differentiation	TC has explicitly incorporated a wide variety of mathematics curricula and strategies, including differentiated instruction for diverse populations in order to build all students' conceptual understanding and procedural fluency.	TC has incorporated a variety of mathematics curricula and strategies, including differentiated instruction for diverse populations, but it is not always clear how it will build all students' conceptual understanding and procedural fluency.	The variety of mathematics curricula and strategies, or differentiated instruction for diverse populations, is minimal.

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II. Implementation	Exceptional	Proficient	Needs Improvement
Lesson beginning	Is an activity that activates prior knowledge, stirs inquiry, launches, and connects to lesson.	Is an activity that activates prior knowledge, generates interest, launches and connects to lesson.	Is an activity that does not activate prior knowledge, does not engage students, or does not connect to lesson.
Teacher Disposition	TC has a confident teaching presence. Exhibits knowledge of adolescent learning, development, and behavior and consistently demonstrates a positive disposition toward mathematical processes and learning.	TC is not always confident, but demonstrates a positive disposition toward mathematical processes and learning.	TC does not display a confident teaching presence and does not demonstrate a positive disposition toward mathematical processes and learning.
Content Precision	TC uses the language of mathematics to express ideas precisely, and communicates mathematical thinking coherently and clearly.	TC mostly uses the language of mathematics to express ideas precisely, but does not always communicate mathematical thinking coherently and clearly.	TC does not use the language of mathematics to express ideas precisely, and does not communicate mathematical thinking coherently and clearly.
Effectiveness of Communication	TC uses appropriate mathematical vocabulary and symbols to communicate mathematical ideas, uses multiple representations to model and describe mathematics, and implements strategies to help students do the same throughout the lesson.	TC uses appropriate mathematics vocabulary, symbols, and multiple representations, but may not direct student attention to vocabulary, symbol, and representation meaning consistently or effectively. Student communication of mathematical ideas and symbols to others and use of multiple representations is sporadic.	TC uses appropriate mathematics vocabulary, symbols, and multiple representations inconsistently or ineffectively. Student communication of mathematical ideas and symbols to others and use of multiple representations is minimal.
Development of conceptual understanding and problem solving	TC teaches through problem solving; that is, uses problem solving to help students build new mathematical knowledge and develop conceptual understanding, and helps students to develop and test conjectures in order to frame generalizations.	TC helps students build new mathematical knowledge and develop conceptual understanding.	TC does not teach through problem solving or help students build new mathematical knowledge or develop conceptual understanding.
Problem Solving	TC provides opportunities for students to solve a variety of problems within the field of mathematics and other contexts, and helps students to persevere, and to apply and adapt a variety of strategies when solving them.	TC provides some opportunities for students to solve problems within the field of mathematics or other contexts, and helps students to persevere, and to apply and adapt a variety of strategies when solving them.	TC does not provide problem solving opportunities for students in the lesson.

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Reasoning and Proof	Opportunities for student engagement in reasoning (abstract, quantitative, and reflective) with attention to units if applicable, as well as construction of viable arguments and proofs, and critique of others' reasoning are integrated throughout the lesson.	Opportunities for student engagement in reasoning (abstract, quantitative, or reflective) with attention to units if applicable, as well as construction of viable arguments and proofs, and critique of others' reasoning are mostly guided by the TC.	TC provides minimal opportunities for student engagement in reasoning.
Reasoning and Proof - Part 2	Discussions, activities, and tasks guide students throughout the lesson to represent and model generalizations using mathematics, to recognize structure, and to express regularity in patterns of mathematical reasoning.	Some discussions, activities, or tasks guide students to represent and model generalizations using mathematics, to recognize structure, or to express regularity in patterns of mathematical reasoning.	Discussions, activities, or tasks minimally guide students to represent and model generalizations using mathematics, to recognize structure, or to express regularity in patterns of mathematical reasoning.
Making Connections	TC demonstrates the interconnectedness of mathematical ideas and how they build on one another, and recognizes and uses connections among mathematical ideas and across various content areas and real-world contexts.	TC demonstrates the interconnectedness of mathematical ideas and how they build on one another and makes connections to real-world contexts.	Connections among mathematical ideas or real-world contexts are minimal.
Student engagement	Lesson engages students in meaningful work by the inclusion of high quality tasks.	Lesson engages most students in meaningful work by the inclusion of at least one high quality task.	Lesson does not include high quality tasks or engage students.
Student misconceptions	TC identifies the key mathematical ideas and student misconceptions and addresses them.	TC identifies the key mathematical ideas and student misconceptions and includes plans to address them, but may not always successfully implement them.	TC may identify the key mathematical ideas and student misconceptions, but does not include plans to address them.
Equity	Pedagogical and classroom management strategies demonstrate equitable treatment of students. High expectations are held and instruction challenges all learners.	Pedagogical and classroom management strategies mostly demonstrate equitable treatment of students. Instruction challenges most learners.	Pedagogical and classroom management strategies do not demonstrate equitable treatment of students. It is not clear that high expectations are held for all students.

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Use of Instructional Tools	TC uses appropriate instructional tools such as manipulatives, drawings, physical models, virtual environments, spreadsheets, presentation tools, and mathematics-specific technologies. All tools that were chosen enhance the teaching and learning of the mathematics content, and nothing would be clearly enhanced by the inclusion of other tools. The limitations of chosen tools are explicitly discussed, including alternate tools to address those limitations.	TC uses appropriate instructional tools such as manipulatives, drawings, physical models, virtual environments, spreadsheets, presentation tools, and mathematics-specific technologies. Most tools that were chosen enhance the teaching and learning of the mathematics content, but the lesson would be clearly enhanced by the inclusion of other tools.	Instructional tools are minimally evident in the lesson. Multiple tools that were not chosen would likely have enhanced the learning opportunities.
Questioning	TC uses explicit strategies to include all students in mathematical discussions. Questioning strategies are explicitly planned to guide students to higher order thinking about key mathematical ideas.	TC uses strategies to include most students in mathematical discussions.	Mathematical discussions are mostly teacher-centered. Questioning strategies do not guide students to higher order thinking about key mathematical ideas.
Managing Transitions	TC's transitions make effective connections between lesson activities.	TC's transitions are mostly effective in making connections between lesson activities.	TC's transitions are absent or underdeveloped.
Pacing	Lesson is well paced.	Parts of the lesson are well paced.	Lesson is not effectively paced.
Managing instructional time and space.	TC is consistent in maintaining positive and appropriate classroom control.	TC is generally consistent in maintaining positive and appropriate classroom control.	TC is inconsistent or unable to maintain classroom control.
Closure	Closes lesson effectively to encourage student reflection and uses multiple strategies, including listening to and understanding the ways students think about mathematics, to assess student learning and mathematical proficiencies that are essential for all students.	Closes lesson to encourage student reflection and uses strategies to assess student learning.	There is no closure activity or student reflection.
Assessment	TC plans, implements, and interprets a variety of formative and summative assessments and uses the data to inform instruction.	TC uses both formative and summative assessments to evaluate student learning in the lesson.	TC does not include both formative and summative assessment in the lesson.

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NOTES/NARRATIVE COMMENTS: