

Math Impact on Student Learning 2021



You may wish to change your printer settings to “landscape” mode if you have a rubric with many performance columns.

	THE BEGINNING CANDIDATE	THE DEVELOPING CANDIDATE	THE COMPETENT CANDIDATE	THE ACCOMPLISHED CANDIDATE
3A) STUDENT DIVERSITY. CANDIDATES IDENTIFY AND USE STUDENTS' INDIVIDUAL AND GROUP DIFFERENCES WHEN PLANNING RIGOROUS AND ENGAGING MATHEMATICS INSTRUCTION THAT SUPPORTS STUDENTS' MEANINGFUL PARTICIPATION AND LEARNING.	Candidate does not use students' individual differences or group differences in planning rigorous and engaging mathematics instruction.	Candidate uses students' individual or group differences in planning rigorous and engaging mathematics instruction for a subset of students.	Candidate uses students' individual and group differences in planning rigorous and engaging mathematics instruction that supports meaningful participation and learning across a full range of students.	Candidate uses students' individual and group differences in planning rigorous and engaging mathematics instruction that supports meaningful participation and learning by each and every student.
	Standards 2020 National Council of Teachers of Mathematics (NCTM) Standards - New Standard: Standard 3: Knowing Students and Planning for Mathematical Learning Candidates use knowledge of students and mathematics to plan rigorous and engaging mathematics instruction supporting students' access and learning. The mathematics instruction developed provides equitable, culturally responsive opportunities for all students to learn and apply mathematics concepts, skills, and practices. Indicator: *3a) Student Diversity. Candidates identify and use students' individual and group differences when planning rigorous and engaging mathematics instruction that supports students' meaningful participation and learning.			
	Candidate does not use students'	Candidate uses students'	Candidate uses students'	Candidate uses students'

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3B) STUDENTS' MATHEMATICAL STRENGTHS. CANDIDATES IDENTIFY AND USE STUDENTS' MATHEMATICAL STRENGTHS TO PLAN RIGOROUS AND ENGAGING MATHEMATICS INSTRUCTION THAT SUPPORTS STUDENTS' MEANINGFUL PARTICIPATION AND LEARNING.	mathematical strengths in planning rigorous and engaging mathematics instruction.	mathematical strengths in planning rigorous and engaging mathematics instruction for a subset of students.	mathematical strengths in planning rigorous and engaging mathematics instruction that supports meaningful participation and learning across a full range of students.	mathematical strengths in planning rigorous and engaging mathematics instruction that supports meaningful participation and learning by each and every student.
	Standards 2020 National Council of Teachers of Mathematics (NCTM) Standards - New Standard: Standard 3: Knowing Students and Planning for Mathematical Learning Candidates use knowledge of students and mathematics to plan rigorous and engaging mathematics instruction supporting students' access and learning. The mathematics instruction developed provides equitable, culturally responsive opportunities for all students to learn and apply mathematics concepts, skills, and practices. Indicator: 3b) Students' Mathematical Strengths. Candidates identify and use students' mathematical strengths to plan rigorous and engaging mathematics instruction that supports students' meaningful participation and learning.			
3C) POSITIVE MATHEMATICAL IDENTITIES. CANDIDATES UNDERSTAND THAT TEACHERS' INTERACTIONS	Candidate does not recognize that teachers' interactions impact individual students by influencing and reinforcing	Candidate understands that teachers' interactions impact individual students by influencing and reinforcing	Candidate understands that teachers' interactions impact individual students by influencing and reinforcing	Candidate understands that teachers' interactions impact individual students by influencing and reinforcing student's mathematical

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IMPACT INDIVIDUAL STUDENTS BY INFLUENCING AND REINFORCING STUDENTS' MATHEMATICAL IDENTITIES, POSITIVE OR NEGATIVE, AND PLAN EXPERIENCES AND INSTRUCTION TO DEVELOP AND FOSTER POSITIVE MATHEMATICAL IDENTITIES.	<p>student's mathematical identities, positive or negative; or candidate does not plan experiences and instruction to develop and foster students' positive mathematical identities for a subset of students.</p>	<p>student's mathematical identities, positive or negative.</p> <p>Candidate plans experiences and instruction to develop and foster students' positive mathematical identities for a subset of students.</p>	<p>student's mathematical identities, positive or negative.</p> <p>Candidate plans experiences and instruction to develop and foster students' positive mathematical identities across a full range of students.</p>	<p>identities, positive or negative.</p> <p>Candidate plans experiences and instruction to develop and foster students' positive mathematical identities for each and every student.</p>
	<p>Standards 2020 National Council of Teachers of Mathematics (NCTM) Standards - New Standard: Standard 3: Knowing Students and Planning for Mathematical Learning Candidates use knowledge of students and mathematics to plan rigorous and engaging mathematics instruction supporting students' access and learning. The mathematics instruction developed provides equitable, culturally responsive opportunities for all students to learn and apply mathematics concepts, skills, and practices. Indicator: 3c) Positive Mathematical Identities. Candidates understand that teachers' interactions impact individual students by influencing and reinforcing students' mathematical identities, positive or negative, and plan experiences and instruction to develop and foster positive mathematical identities.</p>			
4A) ESTABLISH RIGOROUS MATHEMATICS	<p>Candidate establishes mathematics learning goals for</p>	<p>Candidate establishes mathematics learning goals for</p>	<p>Candidate establishes rigorous mathematics</p>	<p>Candidate establishes rigorous mathematics learning goals for students</p>

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LEARNING GOALS. CANDIDATES ESTABLISH RIGOROUS MATHEMATICS LEARNING GOALS FOR STUDENTS BASED ON MATHEMATICS STANDARDS AND PRACTICES.	students which lack rigor.	students which demonstrate some level of rigor but are not situated within mathematics standards and practices, or the purposes for learning mathematics.	learning goals for students situated within mathematics standards and practices, and the purposes for learning mathematics.	<p>situated within learning progressions, mathematics standards and practices, and the purposes for learning mathematics.</p> <p>Candidate recognizes and uses connections when establishing goals.</p>
	Standards 2020 National Council of Teachers of Mathematics (NCTM) Standards - New Standard: Standard 4: Teaching Meaningful Mathematics Candidates implement effective and equitable teaching practices to support rigorous mathematical learning for a full range of students. Candidates establish rigorous mathematics learning goals, engage students in high cognitive demand learning, use mathematics specific tools and representations, elicit and use student responses, develop conceptual understanding and procedural fluency, and pose purposeful questions to facilitate student discourse. Indicator: 4a) Establish Rigorous Mathematics Learning Goals. Candidates establish rigorous mathematics learning goals for students based on mathematics standards and practices.			
4B) ENGAGE STUDENTS IN HIGH COGNITIVE DEMAND LEARNING. CANDIDATES SELECT	Candidate selects tasks without regard to engaging students in high cognitive demand	Candidate selects or develops tasks that could engage students in high cognitive demand mathematical	Candidate selects or develops and implements tasks to engage a full range of students in high cognitive	Candidate analyzes, modifies, sequences, and implements tasks to engage each and every student in high cognitive demand

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OR DEVELOP AND IMPLEMENT HIGH COGNITIVE DEMAND TASKS TO ENGAGE STUDENTS IN MATHEMATICAL LEARNING EXPERIENCES THAT PROMOTE REASONING AND SENSE MAKING.	mathematical learning experiences.	learning experiences, but implementation fails to maintain a high cognitive demand with students.	demand mathematical learning experiences that promote reasoning and sense making.	mathematical learning experiences that promote reasoning and sense making.
	Standards 2020 National Council of Teachers of Mathematics (NCTM) Standards - New Standard: Standard 4: Teaching Meaningful Mathematics Candidates implement effective and equitable teaching practices to support rigorous mathematical learning for a full range of students. Candidates establish rigorous mathematics learning goals, engage students in high cognitive demand learning, use mathematics specific tools and representations, elicit and use student responses, develop conceptual understanding and procedural fluency, and pose purposeful questions to facilitate student discourse. Indicator: 4b) Engage Students in High Cognitive Demand Learning. Candidates select or develop and implement high cognitive demand tasks to engage students in mathematical learning experiences that promote reasoning and sense making.			
4C) INCORPORATE MATHEMATICS-SPECIFIC TOOLS. CANDIDATES SELECT MATHEMATICS-SPECIFIC TOOLS, INCLUDING TECHNOLOGY, TO SUPPORT STUDENTS' LEARNING,	Candidate selects tools without regard to supporting students' learning, understanding, and application of mathematics.	Candidate selects mathematics-specific tools, including technology, to support students' learning, understanding, and application of mathematics but is unable or unsuccessful in	Candidate selects mathematics-specific tools, including technology, to support a full range of students' learning, understanding, and application of mathematics and	Candidate selects mathematics-specific tools, including technology, to support each and every students' learning, understanding, and application of mathematics and integrates tools into instruction.

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UNDERSTANDING, AND APPLICATION OF MATHEMATICS AND TO INTEGRATE TOOLS INTO INSTRUCTION.		integrating tools into instruction.	integrates tools into instruction.	
	Standards 2020 National Council of Teachers of Mathematics (NCTM) Standards - New Standard: Standard 4: Teaching Meaningful Mathematics Candidates implement effective and equitable teaching practices to support rigorous mathematical learning for a full range of students. Candidates establish rigorous mathematics learning goals, engage students in high cognitive demand learning, use mathematics specific tools and representations, elicit and use student responses, develop conceptual understanding and procedural fluency, and pose purposeful questions to facilitate student discourse. Indicator: 4d) Use Mathematical Representations. Candidates select and use mathematical representations to engage students in examining understandings of mathematics concepts and the connections to other representations.			
4D) USE MATHEMATICAL REPRESENTATIONS. CANDIDATES SELECT AND USE MATHEMATICAL REPRESENTATIONS TO ENGAGE STUDENTS IN EXAMINING UNDERSTANDINGS OF MATHEMATICS CONCEPTS AND THE CONNECTIONS TO OTHER REPRESENTATIONS.	Candidate selects mathematical representations without regard to supporting students' learning, understanding, and application of mathematics.	Candidate selects mathematical representations to support students' learning, understanding, and application of mathematics but is unable or unsuccessful in implementing or connecting representations during instruction.	Candidate selects mathematical representations to support students' learning, understanding, and application of mathematics and implements and connects representations during instruction.	Candidate selects and connects mathematical representations to support students' learning, understanding, and application of mathematics and implements and facilitates students in making connections between representations.
	Standards			

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	2020 National Council of Teachers of Mathematics (NCTM) Standards - New Standard: Standard 4: Teaching Meaningful Mathematics Candidates implement effective and equitable teaching practices to support rigorous mathematical learning for a full range of students. Candidates establish rigorous mathematics learning goals, engage students in high cognitive demand learning, use mathematics specific tools and representations, elicit and use student responses, develop conceptual understanding and procedural fluency, and pose purposeful questions to facilitate student discourse. Indicator: 4d) Use Mathematical Representations. Candidates select and use mathematical representations to engage students in examining understandings of mathematics concepts and the connections to other representations.			
4F) DEVELOP CONCEPTUAL UNDERSTANDING AND PROCEDURAL FLUENCY. CANDIDATES USE CONCEPTUAL UNDERSTANDING TO BUILD PROCEDURAL FLUENCY FOR STUDENTS THROUGH INSTRUCTION THAT INCLUDES EXPLICIT CONNECTIONS BETWEEN CONCEPTS AND PROCEDURES.	Candidate designs instruction that does not include both conceptual understanding and procedural fluency.	Candidate designs instruction that includes both conceptual understanding and procedural fluency, but the conceptual understanding does not serve as a foundation for or is not connected to developing procedural fluency.	Candidate designs and implements instruction that uses conceptual understanding to build procedural fluency, including explicit connections between concepts and procedures.	Candidate designs and implements instruction that uses conceptual understanding to build procedural fluency, including explicit connections between concepts and procedures. Candidate facilitates students making connections between procedures and concepts.
5A) ASSESSING FOR LEARNING.	Candidate uses informal and/or formal	Candidate uses informal or formal assessments to	Candidate selects, creates, or adapts	Candidate selects, creates, or adapts assessments and

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CANDIDATES SELECT, MODIFY, OR CREATE BOTH INFORMAL AND FORMAL ASSESSMENTS TO ELICIT INFORMATION ON STUDENTS' PROGRESS TOWARD RIGOROUS MATHEMATICS LEARNING GOALS.	assessments, but assessments do not measure rigorous mathematics learning goals.	elicit progress toward rigorous mathematics learning goals.	assessments and uses both informal and formal assessments to elicit progress toward rigorous mathematics learning goals for a full range of students.	uses both informal and formal assessments to elicit progress toward rigorous mathematics learning goals for students' individual learning.
5B) ANALYZE ASSESSMENT DATA. CANDIDATES COLLECT INFORMATION ON STUDENTS' PROGRESS AND USE DATA FROM INFORMAL AND FORMAL ASSESSMENTS TO ANALYZE PROGRESS OF INDIVIDUAL STUDENTS, THE CLASS AS A WHOLE, AND SUBGROUPS OF	Candidate does not use data from assessments to analyze progress toward rigorous mathematics learning goals.	Candidate uses data from informal or formal assessments to analyze progress toward rigorous mathematics learning goals for selected students, the class as a whole, or subgroups of students disaggregated by demographic categories.	Candidate uses data from informal and formal assessments to analyze progress toward rigorous mathematics learning goals for selected students, the class as a whole, and subgroups of students disaggregated by demographic categories, when directed.	Candidate consistently uses data from informal and formal assessments to analyze progress toward rigorous mathematics learning goals for each individual student, the class as a whole, and subgroups of students disaggregated by demographic categories.

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STUDENTS DISAGGREGATED BY DEMOGRAPHIC CATEGORIES TOWARD RIGOROUS MATHEMATICS LEARNING GOALS.				
5C) MODIFY INSTRUCTION. CANDIDATES USE THE EVIDENCE OF STUDENT LEARNING OF INDIVIDUAL STUDENTS, THE CLASS AS A WHOLE, AND SUBGROUPS OF STUDENTS DISAGGREGATED BY DEMOGRAPHIC CATEGORIES TO ANALYZE THE EFFECTIVENESS OF THEIR INSTRUCTION WITH RESPECT TO THESE GROUPS. CANDIDATES PROPOSE	Candidate does not use evidence of student learning to analyze the effectiveness of their instruction, or they analyze effectiveness of instruction without proposing adjustments to instruction.	Candidate uses evidence of student learning to analyze the effectiveness of their instruction and proposes adjustments to instruction, but those adjustments are not explicitly connected to the analysis of the data for selected students, the class as a whole, or subgroups of students disaggregated by demographic categories.	Candidate uses evidence of student learning to analyze the effectiveness of their instruction and proposes adjustments to instruction that are explicitly connected to the analysis of the data for selected students, the class as a whole, and subgroups of students disaggregated by demographic categories when directed.	Candidate consistently uses evidence of student learning to analyze the effectiveness of their instruction and propose adjustments to instruction that are explicitly connected to the analysis of the data and address the learning needs of each individual student, the class as a whole, and subgroups of students disaggregated by demographic categories without prompting.

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ADJUSTMENTS TO INSTRUCTION TO IMPROVE STUDENT LEARNING FOR EACH AND EVERY STUDENT BASED ON THE ANALYSIS.				