Section C: Classroom Criteria

Coaching and Observation Notes:

- The design of the observation protocol allows for practical adaptation for a variety of uses. Depending on the selected length of each classroom observation (15, 30, 45 minutes, or whole class period) that is most feasible and relevant, given its goals for improvement, schools may select the key indicators that are likely to be observable, given the length of the observation, and collect data and report on those indicators accordingly.
- The indicators on this tool assume the observer is aware of which lesson is being taught during the classroom observation.
- While there may be other attributes of effective implementation that should be taken into consideration during lesson delivery, IM selected indicators and composed progressions of practices that account for what may feasibly be observed during a single lesson.
- The classroom-level criteria can be used for classroom observations, and can be reported using descriptive statistics across a district or between grade levels within an individual school. It is **not recommended** that schools isolate individual teacher scores for evaluative purposes. Aggregate data can be used to inform the development of new school or team processes or policies, or inform professional learning.
- Each progression of practice is **cumulative**. A classroom must address all elements of a given descriptor level before being considered for the next highest level of quality.

Progression of Practice Definitions (for Items C1 and C2):

- **Awareness:** The teacher demonstrates an awareness of the approach (as described in the indicator's *Description*) or resources, or is still exploring how to use.
- **Experimenting**: The teacher has begun to try to use the approach or resource, but has yet to use in alignment with the intended design.
- **Implementing**: The teacher uses the approach or resource, and has begun to form habits around key practices.
- **Integrating**: The teacher effectively uses the approach or resource. The teacher leverages the full intent of the curriculum.

Progression of Practice Definitions (for Student Learning Behaviors, Item C3):

- **Receiving:** The students are receiving information, but not interacting or belonging to the learning community. Most students must be prompted by the teacher to participate in the lesson, and make minimal contributions.
- **Reacting**: The students are reacting to the teacher's prompts and other students in the learning community. Learning is being done to the students, instead of them being full contributors to the learning.
- **Interacting**: The students are participating in the learning without being prompted by the teacher, and interacting with other students in the learning community.
- **Belonging**: All students are participating and demonstrating evidence of belonging to the learning community. Students take an active role in co-constructing their learning, actively contributing to others in the learning community.

Part C1. Use of Key Curricular Resources *The teacher uses learning goals and targets, the IM design structure, and math content and language routines as key instructional resources in the lesson.*

Indicator	Descriptor	1. Awareness	2. Experimenting	3. Implementing	4. Integrating
C1.1 Use of Learning Goals and Targets	*The teacher uses student-facing learning goals ("Let's...") and targets ("I can...") to communicate expectations and engage students.*	The teacher **shares the learning goals** for the lesson. The teacher may post the teacher-facing learning goal or student learning target **at the beginning of the lesson**.	The teacher shares the student-facing learning goals at the beginning of the lesson, and **may reference the learning targets at the end of the lesson or in preparation for unit assessments**.	The teacher shares **the student-facing learning goals at the beginning of the lesson to focus learning**. The teacher may **occasionally reference the learning targets** at appropriate times during **the lesson**.	The teacher references the learning targets at appropriate times during the lesson, and **uses evidence of student understanding (e.g., verbal and written responses to activities and questions, student self-ratings of understanding of learning targets) to make decisions about supporting student thinking and learning**.
C1.2 Use of IM's Design Structure	*The teacher effectively uses the IM Design Structure (Invitation to the Mathematics, Deep Study of Concepts and Procedures, and Consolidation and Application), including the warm-up, activity launches, activity and lesson syntheses, and cool-downs.*	The teacher uses some of the **key components of the lesson, but may replace the warm-up or key lesson activities** with a different activity.	The teacher uses **most of the key components** of the lesson, including the warm-up and lesson activities, but **may skip the activity launches or syntheses, or the lesson synthesis**, or may **struggle to ensure effective pacing** for all components.	The teacher uses **all of the key components** of the lesson, **including the warm-up, activity launches and syntheses, the lesson synthesis, and the cool-down**.	The teacher effectively uses all key components of the lesson in a way that **invites students to the mathematics** (ensuring all students can access the task), **engages them in deep study of the concepts and procedures** (supporting students to engage in productive struggle), **and supports them to consolidate and apply their learning** (using student ideas and contributions to synthesize ideas and draw attention to the learning goals).

C1.3 Use of Instructional Routines	*The teacher effectively uses the Instructional Routines (Notice and Wonder, Math Talk, Which One Doesn't Belong?, Card Sort, Poll the Class, Take Turns).*	The teacher **attempts the routine(s), but may inappropriately use them** (e.g., pre-teaches instead of Notice and Wonder). The **students may be unaware** of the routine.	The teacher **uses some of the routines** (e.g., skips Number Talks or Poll the Class) as intended in the lesson. **OR** The teacher may use all of the routines but **facilitation is inconsistent with the goal and design.** The teacher may **adapt the routine based on perceived student gaps** or reduce the rigor.	The teacher **uses all** of the routines and facilitates the routines **consistent with the goal and design** (e.g., discussion-based routines allow for discussion, some routines are given think time, all Notice and Wonder responses are honored, etc.). The teacher may **adapt the routine based on student dispositions**, but supports student access to grade-level mathematics.	The teacher uses all of the routines, facilitates each routine in a way that is consistent with its goal and design, and can **creatively embed relevant routines into the lesson, at the right time, even when they may not be written into the curriculum.** **OR** The teacher may **adapt the routine to ensure it is culturally responsive, yet still integrate the routine with key lesson concepts/targets,** and support student access to grade-level mathematics.
C1.4 Use of Math Language Routines *(most relevant for classrooms supporting students who are English-language learners)*	*The teacher effectively uses the Math Language Routines (MLRs) (MLR1: Stronger and Clearer Each Time; MLR2: Collect and Display; MLR3: Clarify, Critique, Correct; MLR4: Info Gap; MLR5: Co-Craft Questions; MLR6: Three Reads; MLR7: Compare and Connect; MLR8: Discussion Supports).*	The teacher **attempts the MLR**, but may inappropriately use it (e.g., pre-teaches instead of Three Reads). The **students may be unaware** of the routine.	The teacher **uses the MLR** as intended in the lesson but **facilitation is inconsistent with the goal and design**.	The teacher facilitates the MLR **consistent with the goal and design** (e.g., discussion based routines allow for discussion, some routines are given think time, etc.).	The teacher facilitates the MLR in a way that is consistent with its goal and design, and can **creatively embed relevant MLRs into the lesson, at the right time, even when they may not be written into the curriculum.** **OR** The teacher can make **relevant adaptations** to MLRs to integrate with key lesson concepts/targets.

C2.2 Launching Activities	*The teacher effectively launches each activity, ensuring students understand the context (as appropriate) and what the problem is asking them to do.*	The teacher may ask students to **immediately start working on an activity** without setting up students to successfully work on the problem. **OR** When launching the activity, the teacher **tells the students how to do the problem** instead of allowing students to figure out how to solve the problem.	The teacher poses **some of the prompts from the activity launches to students** but may ignore suggestions in the launch for grouping students.	The teacher chooses and **poses suggested prompts** from the activity launches **that are appropriate for what students need** to understand the context and what the problem is asking them to do. **The teacher groups students in alignment with the intention of the activities**.	The teacher **integrates support as needed** (e.g., Notice and Wonder, an MLR, a support for students with disabilities) **to ensure all students understand the context and what the problem is asking them to do**.
C2.3 Teacher Questioning	*The teacher effectively questions students to assess their mathematical ideas and advance their mathematical thinking.*	The teacher **may not ask a sufficient number of questions** to assess or understand student ideas or thinking. The teacher asks **closed questions that recall definitions, procedures, or one-word answers,** rather than open questions that reveal student understanding.	The teacher **poses some of the suggested questions or prompts from the curriculum** to students. The teacher may **experiment with using open-ended questions** to assess student understanding.	The teacher poses **multiple suggested questions and prompts** from the curriculum to students while they are working and during whole class discussion. The teacher **uses open-ended questions** to assess student understanding.	The teacher uses open-ended questions to assess student understanding, **probe for deeper understanding, and advance their mathematical thinking**.

C2.4 Engaging Students in Meaningful Small Group Discussions	*The teacher uses structures and routines to engage students in small group discussions, and holds students accountable to discuss mathematical ideas relevant to the learning goals for the activity/lesson.*	The **teacher does most of the talking in the classroom**. The teacher may be **aware of students who are not contributing** but may struggle to provide opportunities for students to effectively share their thinking in small groups.	The teacher **embeds some opportunities** for students to engage in pair or small group discussion. The teacher may **experiment with different structures for holding students accountable** to participate and/or share their mathematical ideas.	The teacher uses **formal classroom structures and routines** (e.g., quiet think time, partner discussion, Think Pair Share) to engage students in pair and small group discussions. The teacher **holds students accountable to share their thinking**, even those who do not voluntarily share ideas.	The teacher **effectively uses formal classroom structures and routines** (e.g., quiet think time, partner discussion, Think Pair Share) to engage students in pair and small group discussions, where **every student contributes to the conversation**. The teacher **effectively** embeds routines to hold **all** students accountable to share mathematical ideas.
C2.5 Teacher Synthesis of Mathematical Ideas	*The teacher effectively and accurately synthesizes mathematical ideas, avoiding errors in their explanations and questions.*	The teacher **summarizes the content** from the curriculum but may **struggle to accurately synthesize mathematical ideas suggested by students**.	The teacher chooses and poses **some of the prompts from the activity and lesson syntheses to students.** The teacher may also **ask students to share answers or solutions** to the activities instead of their strategies.	The teacher chooses and **poses suggested prompts** from the activity and lesson syntheses **that are appropriate for what students need to reach the learning goals for the lesson**. The teacher **asks students to share their strategies in order to connect to key lesson concepts.**	The teacher poses suggested prompts from the activity and lesson syntheses to students, asking students to share their strategies in order to connect to key lesson concepts, **and orchestrating the discussion based on the learning goals.** The teacher connects **student ideas and questions** using the explanations from the curriculum.
C2.6 Using the Five Practices to Structure Discussion 1. Anticipate 2. Monitor 3. Select 4. Sequence 5. Connect	*The teacher effectively uses the Five Practices to routinely monitor student thinking and communication, and incorporates student ideas and strategies into the lesson.*	The teacher either does not circulate about the room, or roams the room to monitor, but **may not ask students to share** their ideas and strategies.	The teacher **monitors the room** to ask students to share their ideas and strategies, but may not strategically select students to report out in a meaningful sequence.	The teacher monitors the room to ask students to share their ideas and strategies, and **strategically selects students in a meaningful sequence** to share their ideas and strategies in class.	The teacher asks students to share their ideas and strategies, selects students in a meaningful sequence, and **connects student ideas and strategies to the learning goals of the lesson**.

Part C3. Student Learning Behaviors *Students demonstrate engagement and belonging to the learning community via effective independent and collaborative problem-solving, communication of mathematical ideas, and productive struggle.*

Indicator	Descriptor	1. Receiving	2. Reacting	3. Interacting	4. Belonging
C3.1 Student Independent Problem-Solving	*When assigned independent work tasks, students are able to show perseverance in problem-solving.*	When assigned independent tasks, most students are **not on task** and/or engaged in other activities.	When assigned independent tasks, students attempt to solve problems, but **appear easily distracted** or **require teacher redirection** to stay on task.	When assigned independent tasks, students work to **complete the tasks** they are given, **requiring little redirection or teacher support**.	When assigned independent tasks, students **work to make their thinking visible, under their own initiative, so that others can clearly understand their work**.
C3.2 Student Collaborative Problem-Solving	*When assigned collaborative work tasks, students listen to each other and share their thinking throughout all stages of the problem-solving process.*	When assigned collaborative tasks, **students let other students take over** the work and the thinking. Students **may work independently** when assigned paired or group tasks.	When assigned collaborative tasks, **students listen to other students' solutions or ideas** and/or share their own solutions or ideas (e.g., "I got 7, what did you get?"). Students **may share** their thinking with their group **when prompted by the teacher**.	When assigned collaborative tasks, students participate in **collaborative problem solving** (i.e., students talk about each other's thinking, not just their own). Students **share their thinking with their group**, and may ask the teacher for help when the group has a question rather than only when an individual has a question.	When assigned collaborative tasks, students participate in collaborative problem solving (i.e., students talk about each other's thinking, not just their own), **make connections between their own strategy and others', and integrate strategies to create a group solution to a problem.** **Students** share their thinking **throughout multiple stages of the problem-solving process** (not just sharing solutions or asking for a complete solution).
C3.3 Student Communication of Mathematical Ideas	*The students clearly communicate their mathematical ideas, both verbally and in written form.*	Students respond to questions using a **short answer response with little explanation.**	Most students **need to be prompted by the teacher** to explain their thinking, verbally or in writing.	Students coherently respond to teacher questions, and **extend and explain their thinking when asked**.	Students coherently respond to teacher questions by **fully explaining** their reasoning (e.g., uses a second sentence) **without being prompted by the teacher or another student.**

C3.4 Productive Struggle	*The students know that confusion can lead to understanding, ask questions of each other, and help each other without just giving away an answer during times of difficulty, challenge, or error.*	Students **wait for help** or **do not appear to ask for help** during times of difficulty, challenge, or error.	Students **ask questions of the teacher** during times of difficulty, challenge, or error.	Students **continue working, try again, and persevere** during times of difficulty, challenge, or error. Students **may ask each other** for help when they are confused or stuck.	Students **revise their thinking, and their written work includes revised explanations, added detail for making thinking visible, and justifications** after times of difficulty, challenge, or error. Students listen and help each other think through problems, **without giving away solutions**.