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| **Math Expressions Core Structure** | **Teacher Evidence** | **Student Evidence** |
| **Quick Practice**  Math Expression quick practice, found at the beginning of each lesson, is implemented in the first five minutes of **EVERY MATH LESSON** as a review/fluency activity. | * Teacher begins the lesson with Quick Practice fluency routines, limited to approximately 5 minutes. * Teacher has prepared Quick Practice materials for easy access and use. * Teacher introduces and models ***new*** Quick Practice ideas for students. * Teacher becomes an observer of student –led Quick Practice.   *DQ 5: Element 24 Helping students modify their level of engagement as a result of teacher action.* | * Once routine has been introduced and practiced, student leaders lead the routine. * Students are familiar with the Quick Practice and follow the student leader’s example. * Students explore numbers using visual, auditory, and kinesthetic methods.   *DQ 2: Element 12 Accurately record and represent their understanding of critical content in linguistic and/or nonlinguistic ways.*  *DQ 3: Element 19 Develop automaticity with skills, strategies, or processes by engaging in appropriate practice activities.* |
| **Student Leaders**  Everyone in the math classroom is a learner and a teacher. Student leaders facilitate the Daily Routine and Quick Practice segments of math learning. Student leaders are an integral part of math discussion in the classroom.  The goal being 70% student talk and 30% teacher talk. | * Teacher supports students to develop as student leaders. * Teacher physically removes himself/herself from the front of the room.   *DQ 9: Communicating High Expectations for All Students* | * Student voice is prominent in the classroom. * Student Leaders are modeling, clarifying, and explaining mathematical thinking to others. * Student Leaders accept leadership responsibilities in the classroom.   *Math Practice 3: Construct viable arguments and critique the reasoning of others.* |
| **Helping Community**  A helping community is a way of doing business in Math Expressions. Teachers have fostered a risk-free environment.  Teachers and students understand that an incorrect answer has value as it allows students to learn ‘why’ and avoid making the same error in the future.  This risk-free environment provides a platform for Math Talk. | * Teacher has fostered a risk-free environment. * Teacher supports the sense-making of ***all***classroom members. * Teacher has established a collaborative classroom culture that encourages values such as responsibility and respect for others. * Teacher orchestrates collaborative instructional conversations focused on the students’ mathematical thinking.   *DQ 8: Establishing and Maintaining Effective Relationships with Students*  *DQ 9: Communicating High Expectations for All Students* | * Students perceive the classroom as a risk-free environment. * Students perceive mistakes as learning opportunities. * Students feel comfortable asking for and receiving help. |
| **Math Talk**  Teachers use intentional questions and activities to enable student use of Math Talk to exchange mathematical ideas and problem-solving strategies. Students use Math Talk to ask for and receive help, and errors can be identified, discussed, and corrected.  Math Talk enables students to become active helpers and questioners, creating student-to-student talk that stimulates engagement and community.  Teachers use Math talk to do continual formative assessment, to modify instruction, and address errors or extend good mathematical thinking.  Math Talk = “Solve and Discuss” (Solve, Explain, Question and Justify) | * The teacher has established a collaborative classroom culture where students can exchange mathematical ideas and problem-solving strategies. * Teacher uses Math Talk to identify errors, and discuss and correct them. * Teacher uses intentional questioning to promote student Math Talk. * Teacher “stays out of the way” to help students interact more directly with each other. * Productive student-to-student discussion is monitored and supported by the teacher. * Teacher assess understanding on an ongoing basis to extend good mathematical thinking.   *DQ 1: Communicating Learning Goals and Feedback*  *DQ 2: Helping students interact w/ New Knowledge*  *DQ 3: Helping Students Practice and Deepen New Knowledge*  *DQ 4: Helping Students Generate and Test Hypotheses*  *DQ 5: Engaging Students*  *DQ 8: Establishing and Maintaining Effective Relationships with Students*  *DQ 9: Communicating High Expectations for All Students*  *Formative Assessment* | * Students work collaboratively, sharing mathematical ideas and problem-solving strategies. * Student math drawings accompany student explanations. * Students are active helpers and questioners * Students assess their own understanding on an ongoing basis to extend mathematical thinking.   *DQ 1: Element 2 Understand their current status on the scale and can articulate their progress toward the learning goal.*  *DQ 2: Element 7 Interact in small groups to process and understand new knowledge.*  *DQ 2: Element 10 Cognitively engage with new content during interactions with other students.*  *DQ3: Element 15 Practice and deepen knowledge by interacting in small groups.*  *Math Practice 1: Make sense of problems and persevere in solving them.*  *Math Practice 2: Reason abstractly and quantitatively.*    *Math Practice 3: Construct viable arguments and critique the reasoning of others.*  *Math Practice 7: Look for and make use of structure.*  *Math Practice 8: Look for and express regularity in repeated reasoning.* |
| **Building Concepts**  Teachers use an inquiry learning path with three phases of learning:   * Student generated methods * Research based methods * Formal math methods   Leading to the knowledge that there are several correct methods for solving every math situation and each has advantages and disadvantages.  Teachers use flexible groupings to maximize student interaction, and sharing of problem understanding and reasoning.  Teachers have an understanding that conceptual understanding leads to procedural fluency. This process includes targeted practice and fluency checks.  Teachers and students make sense out of story problems through drawings, labels, and equations.  Teachers and students understand which story problem type is being used, and are able to explain their thinking. | * Teacher leads student through inquiry learning phases to help him/her move through his/her own learning paths. * Teacher identifies different solution methods used by students, introduces mathematically desirable and accessible methods, and allows students to choose a method depending on his/her place in the learning path. * Teacher recognizes that there may be several correct methods for solving a math situation, with advantages and disadvantages to each. * Teacher uses flexible groupings (student pairs, small groups, board work) to maximize student differentiation. * Teacher uses targeted practice and fluency checks to assess student conceptual understanding and fluency. * Teacher understands that knowing about problem types, and teaching them to students, can be useful in solving them.   *DQ 1: Communicating Learning Goals and Feedback*  *DQ 2: Helping students Interact w/ New Knowledge*  *DQ 3: Helping Students Practice and Deepen New Knowledge*  *DQ 4: Helping Students Generate and Test Hypotheses*  *DQ 5: Engaging Students*  *Formative Assessment* | * Students recognize that there may be several correct methods for solving a math situation, with advantages and disadvantages to each. * Students use math drawings as a sense-making link between formal mathematics and informal sensory experiences. * Students use math drawings and visual models and tools to represent a word problem situation. * Students solve word problems by understanding, representing, and solving, and then checking for reasonableness. * Students understand that knowing about problem types can be useful in solving them.   *DQ 2: Element Students accurately record and represent their understanding of critical content in linguistic and/or nonlinguistic ways.*  *DQ 2: Interacting w/ New Knowledge*  *DQ 3: Practicing and Deepening New Knowledge*  *DQ 4: Generating and Testing Hypotheses*  *Math Practice 1: Make sense of problems and persevere in solving them.*  *Math Practice 2: Reason abstractly and quantitatively.*  *Math Practice 4: Model with mathematics.*  *Math Practice 5: Use appropriate tools strategically.*  *Math Practice 6: Attend to precision.*  *Math Practice 7: Look for and make use of structure.* |