**CONGRUENCY TO MATH STANDARDS**

**Instructional Look-fors and Coaching questions for Principals**

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| **Shifts to Instruction** | **Pre-Conference Questions****Focus Domain 1** |
| **FOCUS****Focus strongly where the Standards focus****COHERENCE****Think across grades; link to major topics within grades****RIGOR****In major topics, pursue conceptual understanding, application, and procedural skill** **MATH PRACTICE STANDARDS**1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning
 | --Does the lesson target a grade- level KCAS/CCSS mathematics standard to the full depth of the standards for teaching and learning (beyond DOK1)?--How does the target connect to the bigger focus of the unit? What are possible misconceptions student might have, and how will those be addressed?--Are the *Standards for Mathematical Practice* that are central to the lesson identified, handled in a grade-appropriate way, and well connected to the content being addressed?--Does the lesson present a balance of mathematical procedures and deeper conceptual understanding inherent in the KCAS/CCSS?--Does the lesson include High-Cognitive-Demand Task(s) with the potential to engage students in productive struggle through relevant, thought-provoking questions, problems and tasks that stimulate interest and elicit mathematical thinking? --Does the lesson use and encourage precise and accurate mathematics, academic language, terminology and concrete or abstract representations (e.g., pictures, symbols, expressions, equations, graphics, models) in the discipline? |
| **What to look for in an observation****Focus Domain 2 & 3** | **Post-Conference Questions****Focus Domain 4** |
| --Who is doing most of the talking?--Who is working the problems?--What kinds of questions are being asked?--What are the problems like?--What happens when a student gets stuck?--Where is the teacher during practice?--How does s/he answer students when they ask a question? | --What was the learning target for the lesson? What evidence did you use to determine the level of student learning of the target?-- How did you formatively assess student conceptual understanding of the mathematics concepts *and* of the procedural skills?--Did you balance conceptual understanding and procedural fluency appropriately?--How did you ensure the tasks were accessible to all students while still maintaining a high cognitive demand for all students? |