

## Mathematics in a PLC at Work Recipe for Improved Student Learning\*

1. Examine every mathematics unit exam given to students and improve the quality and the rigor of those local assessments.
2. Score all local assessments with at least one other teacher of mathematics to check for accuracy in calibration of scoring.
3. Foster student ownership and agency in all assessment results through on ongoing analysis of unit-by-unit mathematics standard performance.
4. Decide to never go back and teach mathematics lessons using bad practice and routines.
5. Understand that research informs five or six essential elements of every lesson and makes those elements non-negotiable, but with lots of freedom for implementation. As a leader you cannot accept less than best practice in mathematics instruction from every teacher.
6. Share those best lesson-design elements among all teachers and engage in formative feedback discussions about those essential lesson-design elements for student perseverance during the lesson.
7. Decide to do the transparent work of discussing the homework and grading in mathematics.
8. Like mathematics assessments, make homework a common artifact for every teacher team. The common unit-by-unit homework assigned is based on research and understanding of formative independent practice.
9. Revise homework, make-up work, and grading routines to inspire and not destroy student learning.
10. Mix it all together with dynamic mathematics leaders—that means you!

\**Mathematics Assessment and Intervention in a PLC at Work* [Kanold, Barnes, et al., 2018] covers steps 1, 2, and 3. *Mathematics Instruction and Tasks in a PLC at Work* [Kanold, Schuhl, et al., 2018] covers steps 4, 5, and 6. *Mathematics Homework and Grading in a PLC at Work* [Kanold, Kanold-McIntyre, et al., 2018] covers steps 7, 8, and 9. *Mathematics Coaching and Collaboration in a PLC at Work* [Kanold, Toncheff, et al., 2018] covers step 10.

Sources: Kanold, T. D., Toncheff, M., Larson, M. R., Barnes, B., Kanold-McIntyre, J., & Schuhl, S. (2018). Mathematics coaching and collaboration in a PLC at Work. *Bloomington, IN: Solution Tree Press*; Kanold, T. D., Barnes, B., Larson, M. R., Kanold-McIntyre, J., Schuhl, S., & Toncheff, M. (2018). Mathematics homework and grading in a PLC at Work. *Bloomington, IN: Solution Tree Press*; Kanold, T. D., Kanold-McIntyre, J., Larson, M. R., Barnes, B., Schuhl, S., & Toncheff, M. (2018). Mathematics instruction and tasks in a PLC at Work. *Bloomington, IN: Solution Tree Press*; Kanold, T. D., Schuhl, S., Larson, M. R., Barnes, B., Kanold-McIntyre, J., & Toncheff, M. (2018). Mathematics assessment and intervention in a PLC at Work. *Bloomington, IN: Solution Tree Press*.