

Ohio Mathematics and Science Coalition

A Recipe for Success: Improving Your District's Mathematics and Science Education Programs

Goal: To develop a strong instructional program that is delivered by mathematics and science teachers who understand the content and can connect it to research-based teaching, learning and assessment practices.

Ingredients:

1. **STRUCTURE** – Establish a coherent, rigorous, and focused course of study aligned with instructional materials and/or textbooks.
2. **TEACHER QUALITY** – Provide sustained, targeted, embedded, and high-quality professional development that focuses on deepening understanding of the content area, appropriate use of instructional materials, and effective pedagogy.
3. **STUDENTS** – Establish and promote high expectations and involve students in learning opportunities that are challenging, engaging, investigative, and contribute to developing understanding.
4. **ASSESSMENT** – Establish an assessment system that engages and involves students in the learning process, and provides regular feedback about learning to both teacher and student. A full assessment program involves developmental or formative assessments, as well as summative assessments, such as district-developed and/or state-required assessment. Assessment systems should provide meaningful data about how students and teachers are improving.
5. **LEADERSHIP** – Leadership provides the supports that are needed to make teachers, students and programs effective. These efforts are measurable, effective, and sustainable over time. The leadership team should include administrators and teachers in leadership positions who focus on improving student achievement by monitoring the curriculum, instructional materials, the development of professional staff, and articulation of programs across the grades.
6. **GUIDANCE** – Students need guidance from teachers, counselors, administrators, and parents that reflects the research base, current information, and accepted practices associated with preparing for the workforce by engaging in a relevant program of study and career path planning.

This “recipe for success” was developed by the Ohio Mathematics and Science Coalition, and was inspired by the publication, “What Do We Know? Seeking Effective Mathematics and Science Instruction”, developed in 2005 by the GE Foundation, the Urban Institute and Campbell-Kibler Associates.
<http://www.urban.org/url.cfm?ID=311150>