

Mathematics Curriculum Framework

Section 3: Implementing High-Quality Instruction

Part 3: Resources for Professional Learning

Additional Tools and Resources

Resource	Description
School Reform Initiative (SRI)	Website with a wide range of protocols that support teaching and learning. The mission of the School Reform Initiative is to create transformational learning communities that are fiercely committed to educational equity and excellence.
National School Reform Faculty (NSRF)	Website with a wide range of protocols that can be used in collaborative settings, such as PLCs and Critical Friends groups, to enhance teaching and learning.
Sample Teaching Activities to Support Core Competencies of SEL	Document drawing on CASEL reviewed evidence-based programs to identify and describe some of the most common strategies used to promote student SEL.
Using Explicit and Systematic Instruction to Support Working Memory	Article with implementation examples in elementary expository text and mathematics lessons
Effective Practices Alignment Matrix	Tool describing Montana's Effective Practices Alignment Matrix of Three major national and statewide professional development initiatives: the Danielson Framework, Teaching Works High-leverage Practices (HLPs), and the Council for Exceptional Children HLPs for Students with Disabilities — using the effective practices ratings system developed by John C. Hattie.
Collaborative Team Tool Kit	Toolkit from the State of New Jersey's Collaborative Teams intended to help schools establish productive collaborative teams of teachers and administrators working and learning together to help their students.
Questioning strategies to engage all learners	Guide to questioning strategies for teachers. Teachers strategically vary the types of questions they ask to generate meaningful dialog that supports the development of higher-order thinking skills.
Strategic Questioning	Article on strategic questioning. Strategic questioning is intentional, systematic and targets students' learning. Within such a process, students are not just listening and answering questions, but they are also



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	involved in analyzing their teacher and peer’s questions, raising more questions, taking turns to discuss each other’s answers, and evaluating them.
Student Discourse	Article on six ways to move students’ thinking to deeper understanding.
Coherence Map (achievethecore.org)	Standards relate to one another, both within and across grades. The Coherence Map illustrates the coherent structure that is fundamental to college- and career-ready standards. It can be a useful tool when planning instruction to close gaps in student understanding.
Videos Online Resources (corwin.com) Reproducibles Online Resources (corwin.com) Video 2.4. Continual Assessment for Daily Planning Video 3.1. What We Mean by Tasks With Rigor Video 3.2. Questioning That Guides Learning Video 3.3. Student Discourse That Builds Understanding Video 5.2. Student Collaboration and Discourse for Deep Learning Video 5.3. Grouping Strategies for Deep Learning Video 7.2. Feedback That Fosters Learning Video 7.3. Feedback That Fosters Perseverance Video 7.4. Growth Mindset: The Students’ Perspective	<p>“In these videos, you’ll meet teachers and hear their perspectives about teaching mathematics. You’ll also visit their classrooms. In addition, we include effect sizes in the margins for easy reference. We also include a number of teaching tips and definitions of terminology in the margins as well as a number of reproducible forms and tools that you can use in your classroom.”</p> <p>Hattie, J., Fisher, D., Frey, N., Gojak, L.M., Moore, S. D., & Mellman, W. (2016). <i>Visible learning for mathematics, grades K-12: What works best to optimize student learning</i>. Corwin Press.</p>
UDL Guidelines in Math - Google Docs SF USD UDL for Math	Guidelines on providing universal accessibility supports when teaching mathematics
RI Math Project UDL, Differentiation, and Scaffolding Module	RI Math Project learning module with videos, materials, and implementation resources on UDL, Differentiation, and Scaffolding to ensure core access and rigor in elementary and middle school now embedded in a professional learning course as well as grouped in a Google site
RI Math Project Effective Math Core Instruction Modules Part 1 and 2	RI Math Project created two modules on Effective Core Instruction. Part 2 has specific teacher guidance on ensuring all students participate and reducing

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	bias. Module resources include video, slide deck, handouts, implementation resources, student and teacher look-fors, readings.
RI Math Project Supporting Language Development in Mathematics	Learn about the language of mathematics and the importance of vocabulary. Understand the challenges of word problems. Discover instructional practices to support language and vocabulary development.
Evidence-based one-pagers of mathematics instruction from the RI Math Project to support teachers of students with LD, ADHD, or unfinished learning in specific areas: fluency; CRE; cover-copy-compare; additive compare, change, combine, multiplicative equal groups and comparison	A set of concise handouts with explicit how-to instruction for teachers to implement specific mathematics strategies with students who need more explicit instruction to make progress in the core. Each handout includes steps, videos, rationale, and target student population.
RI Math Project Features of Assessment for Math within an MTSS	Module resources: pre-reflection, video, slide deck, handouts, implementation resources, assessment resources
High-Quality Math Instruction IRIS Center Module Page 4: Explicit, Systematic Instruction Page 5: Visual Representations Page 6: Schema Instruction Page 7: Metacognitive Strategies Page 8: Effective Classroom Practices IRIS Perspectives & Resources (vanderbilt.edu)	Subsection <i>What evidence-based mathematics practices can teachers employ?</i> <ul style="list-style-type: none"> Describe some evidence-based practices for teaching mathematics Recognize effective classroom practices that promote and support the implementation of high-quality mathematics instruction Note: The Explicit Systematic Instruction video employs a mnemonic to support initial instruction that focused on developing <i>conceptual understanding</i> of the trigonometric ratios.
Math Interventions for Students With Autism Spectrum Disorder: A Best-Evidence Synthesis - Seth A. King, Christopher J. Lemons, Kimberly A. Davidson, 2016 (sagepub.com)	An overview of mathematics interventions for children and adolescents with ASD Included studies: <ul style="list-style-type: none"> met the design standards of the What Works Clearinghouse (2014) showed moderate to large effect sizes focused on functional and computational skills for students with a comorbid diagnosis of intellectual disability (ID)
Checklist to Implement and Plan the Worked Solutions Strategy	This document provides an implementation checklist to scaffold algebra tasks for students with LD using worked solutions. While the focus of the checklist and referenced article is on students with LD, the

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	<p>approach is also useful when working with any student with unfinished learning.</p>
<p>Examples of Social and Emotional Learning in Elementary Mathematics Instruction</p>	<p>CASEL document produced in collaboration with MA DESE which identifies and describes some of the most common strategies used to promote student SEL in mathematics based upon CASEL reviews of evidence-based programs</p>
<p>IRIS Center Math Videos</p>	<p>Math Instruction Video Playlist on Metacognitive Strategies and Explicit, Systematic Instruction The IRIS Center is a national center dedicated to improving education outcomes for all children, especially DAS, through the use of effective evidence-based practices and interventions. Note: The Explicit Systematic Instruction video employs a mnemonic to support initial instruction that focused on developing <i>conceptual understanding</i> of the trigonometric ratios. The high school Metacognitive Strategies video demonstrates how the mnemonic supports a student in applying her already developed <i>understanding</i> of the trigonometric ratios when solving a word problem.</p>