



CHALLENGE

- **Media:** Two years ago, the staff at Lyle Elementary School decided to focus on their students' mathematics performance. They began by improving their high-quality mathematics instruction, making sure to implement standards-based curricula and evidence-based strategies at each grade level. (movie)

INITIAL THOUGHTS

- What is RTI for mathematics?
- How can teachers effectively implement RTI for mathematics?

PERSPECTIVES AND RESOURCES

- Module Objectives (box)
 - After completing the entire Perspectives and Resources section and reviewing the accompanying activities, you should:
 - Have an understanding of the RTI framework as it applies to mathematics
 - Know how to implement RTI for mathematics with fidelity
 - Be familiar with several options for implementing RTI for mathematics in an elementary school setting

Page 1: Overview of RTI

- Research Shows... (box with graph)
- A multi-tiered approach (graphic)
- RTI serves two primary purposes (numbered and bulleted lists)
- **Media:** The movie illustrates the number of students in the average classroom who might struggle with mathematics and who might benefit from more instructional support (movie)

Page 2: RTI in Practice

- The main features of RTI (clickable drop-down boxes)
 - The relationship between the features of RTI (graphic)
- To implement the RTI approach effectively... (bulleted list)
- FYI (box)

Page 3: Universal Screening

- When they administer universal screening measures, schools or districts need to consider the following factors... (bulleted list)
- Frequency of the Screening
 - Time administered/ Purpose (table)
- IRIS Tip

- Selecting a Measure
 - o *Link*: Computation probe (blank form)
 - o *Link*: Concepts and applications probe (blank form)
 - o When they select a universal screening measure, schools should choose a measure that... (bulleted list)
 - o *Link*: Web-based resources related to universal screening measures
 - o **Media**: Lynn Fuchs discusses how RTI mathematics differs from RTI reading (movie)
- Criteria for Identifying Struggling Students
 - o *Link*: “benchmarks” (definition)
 - o FYI (box with link)
 - Rank-ordering students

Page 4: Increasingly Intense Levels of Instructional Intervention

- Standards-based curriculum (bulleted list)
- Evidence-based instructional strategies:
- Primary Instruction
 - o Primary Instruction Strategies (box)
- Secondary Intervention
 - o Key Principles for Secondary Intervention (box with link)
 - *Link*: Instructional design that minimizes the learning challenge
 - o *Link*: “standard protocol” (definition)
 - o *Link*: Web-Based resources for determining whether a practice is evidence-based
- Tertiary Intervention
 - o Tertiary Intervention Strategies (box)
 - o FYI (box with bulleted list)
- Address the Needs of Diverse Learners
 - o Strategies and practices (bulleted list)

Page 5: High-Quality Instruction

- Increasingly intense levels of instruction (bulleted list and graphic)
- Primary Intervention
 - o Characteristics (table)
- Secondary Intervention
 - o Characteristics (table)
 - o Students who respond adequately to secondary intervention (bulleted list)
 - o Students who DO NOT respond adequately to secondary intervention (bulleted list)
- Tertiary Intervention
 - o *Link*: Special Education Eligibility Process
 - o Did You Know? (box with link)
 - *Link*: Common characteristics of students with a mathematics learning disability
 - o Characteristics (table)
 - o FYI (box)

Page 6: Introduction to Progress Monitoring

- In the RTI framework, progress monitoring is used in the following ways... (bulleted list)
- Curriculum-based measurement (CBM) is useful because... (bulleted list)
- FYI (box)
- Computation Probe (explanation and link to blank form)
- Concepts and Applications Probe (explanation and link to blank form)
- *Link*: Commercially available progress monitoring probes

- Keep in Mind (box)

▶ Page 7: Progress Monitoring: Administration, Scoring, and Graphing

- Administering Progress Monitoring Probes
 - o Did You Know? (box)
 - o *Link*: “alternate form” (definition)
 - o Progress monitoring may vary (bulleted list)
 - o IRIS Tip
- Scoring
 - o Scored Computation Probe (link to form)
 - o Scored Concepts and Applications Probe (link to form)
- Graphing
 - o *Link*: Graph paper (blank form)
 - o *Link*: Student graph (interactive graphing tool)
 - o FYI (box with bulleted list)
 - o **Activity**: Score a student’s prove and graph the data (box with link)

▶ Page 8: Progress Monitoring: Evaluation of Student Performance

- The teacher evaluates progress by examining a students:
 - o Rate of growth
 - o Performance level
- Primary Instruction (box with bulleted list)
- Secondary Intervention (box with bulleted list)
- Tertiary Intervention (box with bulleted list)
- Rate of Growth
 - o A student’s slope can be determined with a simple calculation using... (bulleted list)
 - *Link*: Learn how to calculate a student’s rate of growth
 - *Link*: IRIS Slope Calculator
 - o **Activity**: Calculate a student’s slope and evaluate his rate of growth (box with link)
- Performance Level
 - o **Activity**: Calculate a student’s performance level and determine whether he has met the benchmark (box with link)
 - o FYI (box with bulleted list and links)
 - *Link*: Short-term goal calculation
 - *Link*: IRIS Short-Term Goal Calculator
- Dual Discrepancy
 - o The dual-discrepancy approach (bulleted list)
 - o Use the dual discrepancy approach to determine whether a student is responding adequately to instruction (table)
 - o **Activity**: Apply the dual discrepancy approach to determine whether the students are making adequate progress in the intervention (box with link)

▶ Page 9: Data-Based Decisions

- Initiating Additional Supports
 - o Instructors can use students’ performance data to determine whether... (bulleted list)
- Discontinuing Additional Supports
 - o Students who respond adequately... (bulleted list)
 - o **Media**: David Chard describes the potential outcome of ending an intervention too quickly (audio)
 - o FYI (box with bulleted list)

- Making Data-Based Decisions
 - o The RTI decision-making process (figure)
 - o How to use progress monitoring data to make informed instructional decisions (table)
 - o **Media:** (audio)
 - o **Activity:** Make an instructional decision for two students (box with links)



Page 10: Fidelity Measures

- FYI (box with link)
 - o *Link:* Sample RTI manual
- Fidelity Variables
 - o Fidelity checks consist of three variables [bulleted list]
 - o Fidelity Variables (table with link)
 - *Link:* Standard checklist
 - o Sample fidelity issues
 - *Link:* Mrs. Wilkes
 - *Link:* Mrs. Kim
 - *Link:* Mr. Chandler



Page 11: Implementation at Lyle Elementary

- Universal Screening
 - o Did You Know? (box)
- High-Quality Instruction
 - o *Link:* Ms. Shockley's mathematics lesson plan
- Progress Monitoring
 - o *Link:* TaShonda
 - o *Link:* Luis
 - o *Link:* Olivia
 - o *Link:* Jacob
 - o Data-Based Decisions (box)
- Fidelity of Implementation
 - o Keep in Mind (box with bullets)
- Data-Based Decisions (Secondary Intervention)
 - o *Link:* Luis
 - o *Link:* Olivia
 - o *Link:* Jacob



Page 12: Other Examples of Implementation

- Click on each state to view... (bulleted list)
 - o *Link:* Pennsylvania
 - o *Link:* Wisconsin
 - o *Link:* Oregon
 - *Link:* Side-by-side comparison
- In the table below, representatives of each of these three schools reveal their challenges and reasons for success. Additionally, they share experiences related to implementing RTI for mathematics
 - o **Media:** Earl Bright offers advice for school personnel (audio)
 - o **Media:** Earl Bright talks about the importance of progress monitoring (audio)
 - o **Media:** Lynn Johnson offers advice for school personnel (audio)
 - o **Media:** Lynn Johnson talks about the value of student involvement (audio)
 - o **Media:** Karen Twain offers advice for school personnel who are implementing RTI for

mathematics (audio)

- o **Media:** Karen Twain shares one approach to the RTI process (audio)

Page 13: References, Additional Resources and Information

- References
- Additional Resources and Information

Page 14: Credits

- Content Experts
- Module Developers
- Module Production Team
- Module Production Support Team
- Media Production Team
- Media
- Expert Interviews

ASSESSMENT

- “Please complete the items below” (numbered questions)
 - o CBM Criteria (box with link)
 - *Link:* IRIS Slope Calculator

WRAP UP

- RTI serves two primary purposes (bulleted list)
- **Media:** Watch a summary of RTI for mathematics (movie)