

# **TEA Mathematics Update**

*Conference for the Advancement of Mathematics  
Teaching*

*July 17-20, 2011 – Grapevine, Texas*

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- Higher Expectations
- Professional Development
- TEKS Revision
- Announcements and Other Agency Resources

# Higher Expectations

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- College and Career Readiness Standards

[http://www.thecb.state.tx.us/index.cfm?  
objectid=E5BD0010-0283-9964-C73B36395837970A](http://www.thecb.state.tx.us/index.cfm?objectid=E5BD0010-0283-9964-C73B36395837970A)

- STAAR

<http://www.tea.state.tx.us/student.assessment/staar/>

- Graduation Requirements

<http://www.tea.state.tx.us/graduation.aspx>

# Advanced Quantitative Reasoning (AQR)

- At its January 2011 meeting, the State Board of Education approved for second reading and final adoption 19 TAC Chapter 111, Texas Essential Knowledge and Skills for Mathematics, Subchapter C, High School, §111.37, Advanced Quantitative Reasoning (One Credit).
- TEKS are posted as adopted at <http://www.tea.state.tx.us/index4.aspx?id=2206>.

# Algebra Readiness Components

- Texas Response to Curriculum Focal Points (TxRCFP)
- Professional Development
- Math supplemental diagnostic screening instrument
- Grants to districts

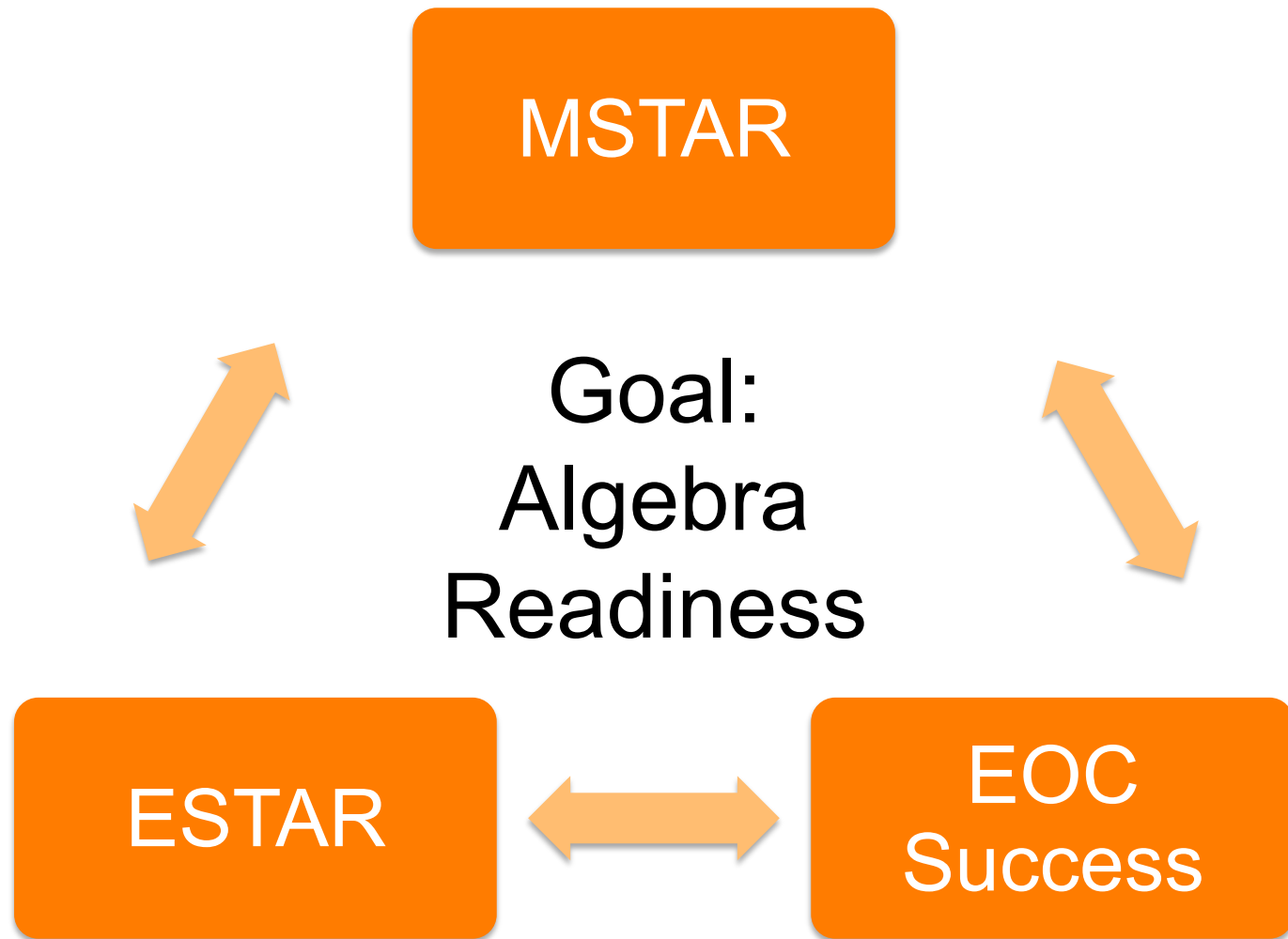
*Website: (TXAR) Texas Algebra Ready---*  
<http://txar.org/>

# Systemic Approach to Professional Development

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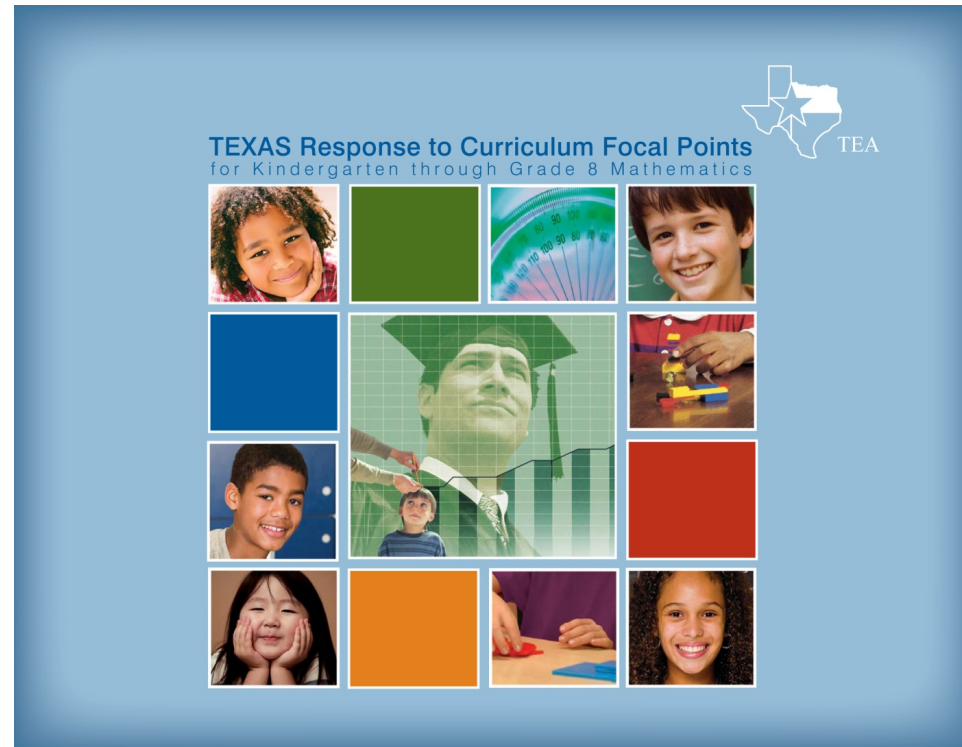
- Initial Focus on Middle Grades (5-8)
- Series of Professional Development Opportunities with Online Follow-up
  - Curriculum Focal Areas
  - Tier I Instruction
  - Tier II Instruction

# Mathematics Professional Development Academies





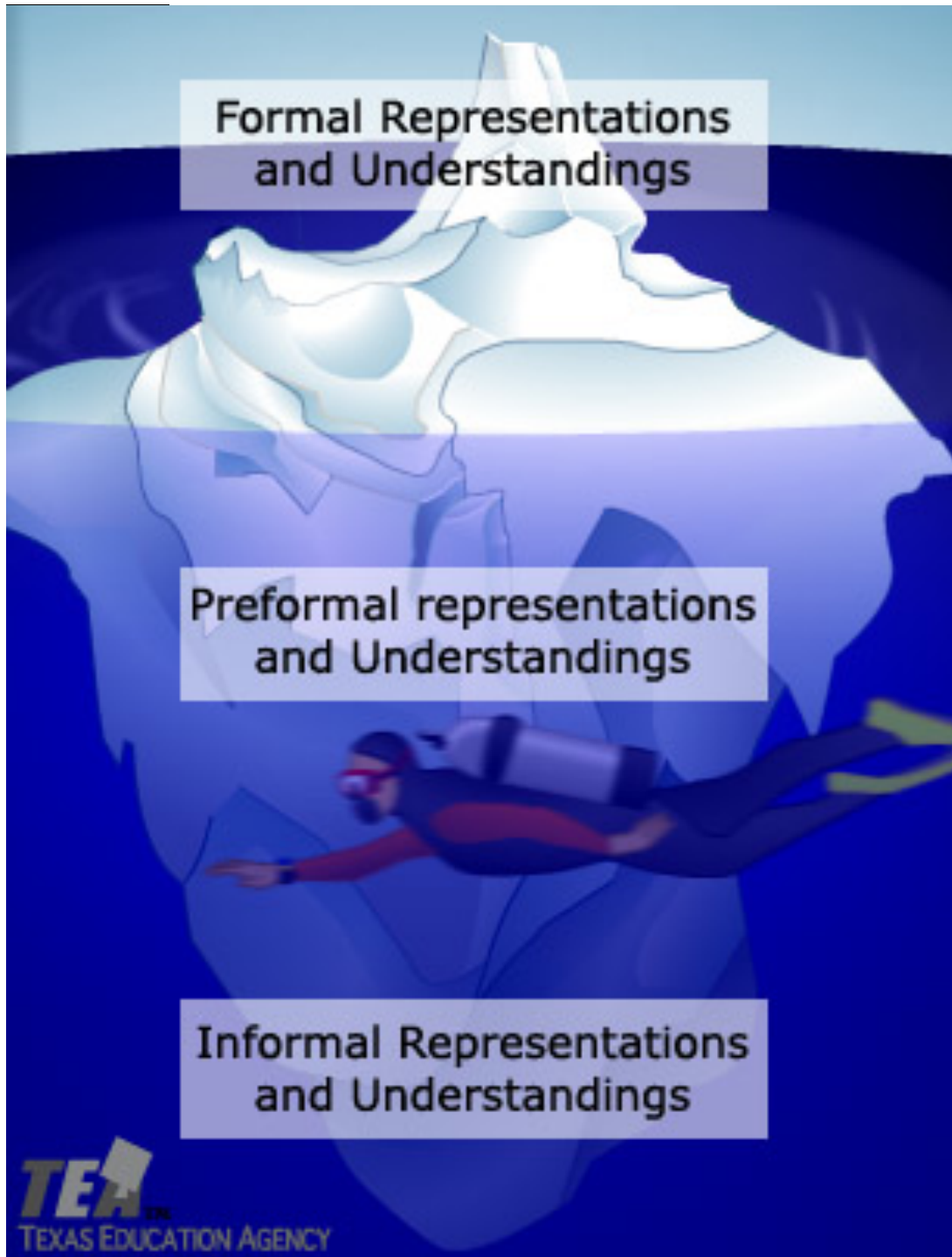
# Texas Response to Curriculum Focal Points



<http://www.txar.org/focalpoints.html>

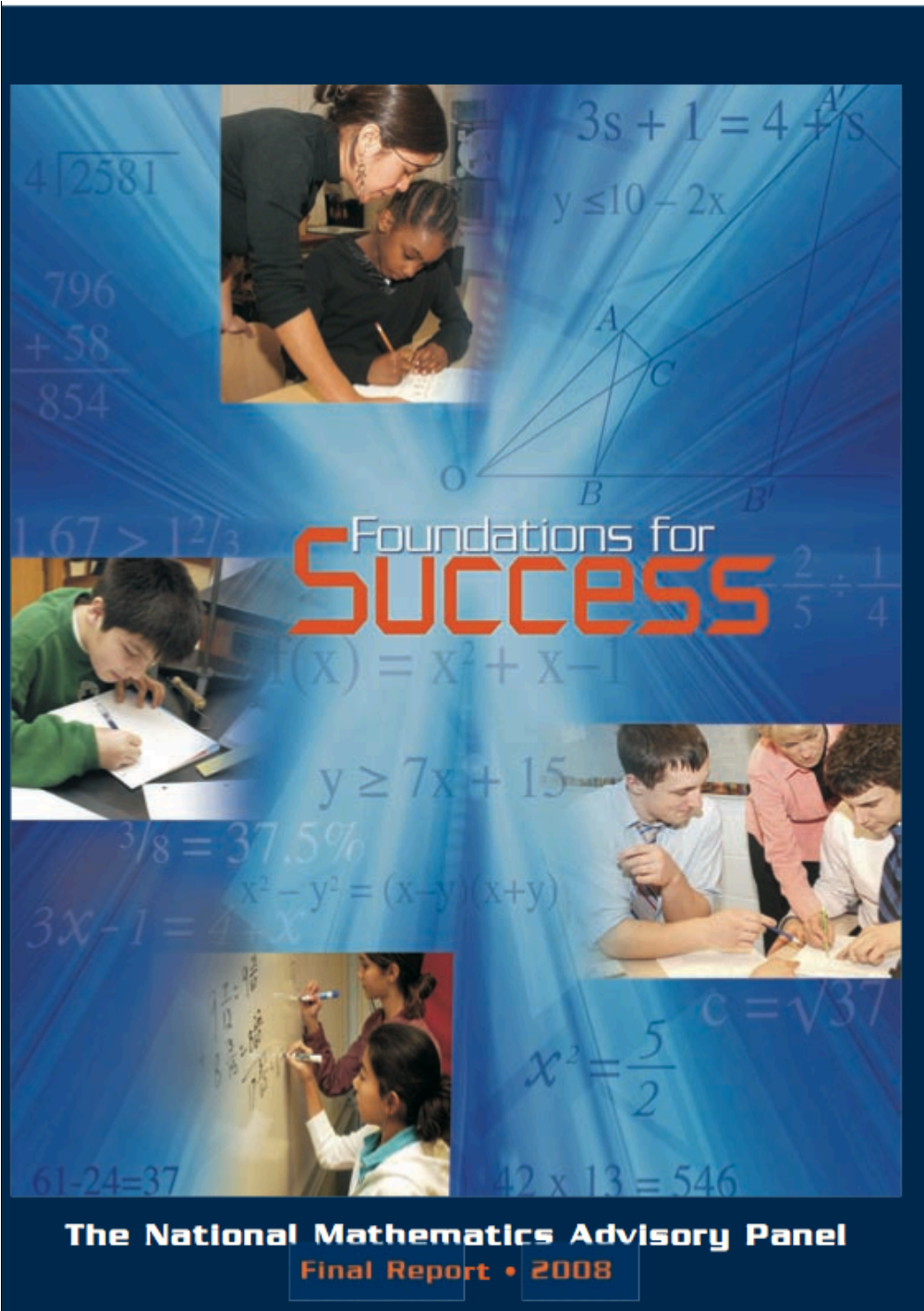
## Texas Response to Curriculum Focal Points K-8

- Aligns student expectations to key topics (focal points)
- Emphasizes integration of concepts across the strands/skills that naturally leads to mathematical connections and higher-level thinking
- Identifies critical areas that connect and integrate mathematical proficiency and understanding



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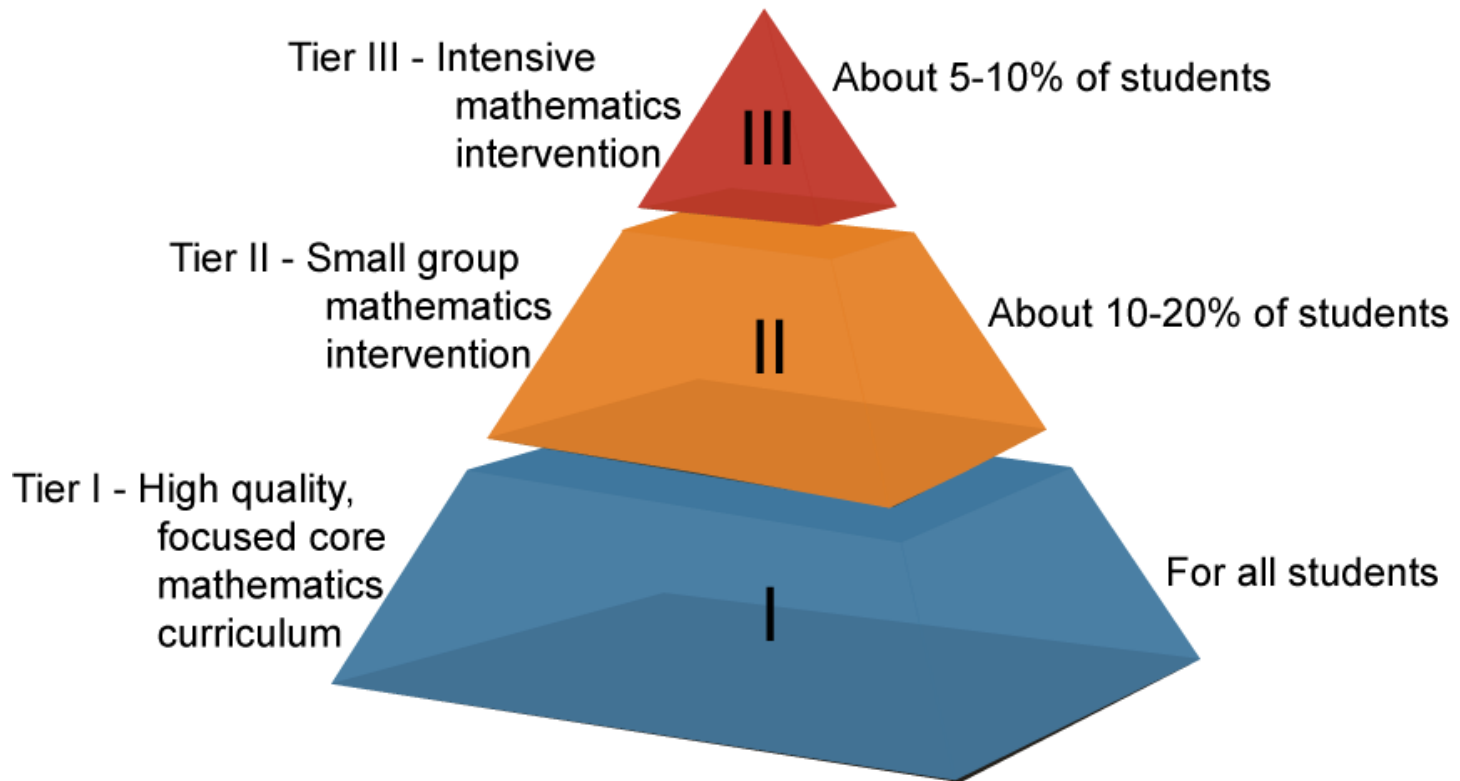
All of the Algebra Readiness Professional Development emphasizes levels of understanding.



# National Mathematics Advisory Panel

## Final Report 2008

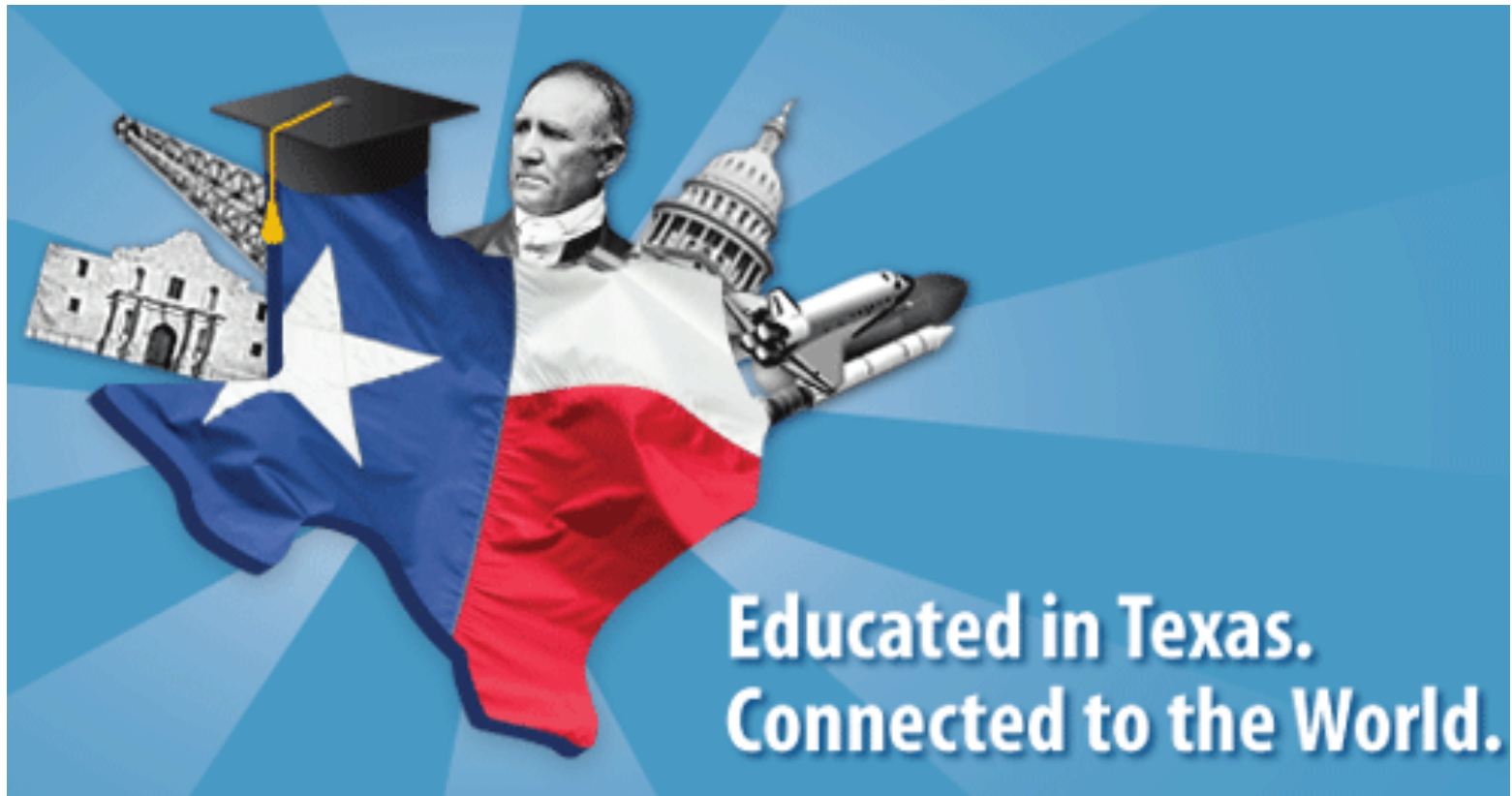
## 3 - Tier Intervention Model



- MSTAR Academy I (Part B) Completion
- MSTAR Academy II
- Geometry EOC Success
- Algebra II EOC Success



# Texas Education on iTunes U



<http://www.tea.state.tx.us/itunesu/>

# Professional Development Promotional Videos

- MSTAR Academy Overview

<http://itunes.apple.com/us/podcast/mstar-academy-overview/id435787150?i=94066617>

- Math Academies—Promotional Video

<http://itunes.apple.com/us/podcast/math-academies-promotional/id435787150?i=94574955>



# Lesson Plan Summary Template

**Geometry EOC Success**  
**Lesson Plan Summary: *Triangular Thinking* Lesson**

**Topic:** Using the constructions of midpoints of the sides of triangles to form conjectures.

**CCRS:** In this lesson, the student will

- Make and validate geometric conjectures
- Develop and evaluate convincing arguments
- Use various types of reasoning
- Use mathematics as a language for reasoning, problem solving, making connections, and generalizing

<p><b>Content Objective:</b> The student uses geometric constructions to make, test, and justify conjectures.</p>	<p><b>Language Objective:</b> C3(C) The student is expected to learn new language structures, expressions, and basic and academic vocabulary heard during classroom instruction and interactions.</p>
<p><b>Vocabulary:</b> midpoint, congruent, similar</p>	<p><b>Prior Knowledge:</b> Students are expected to be familiar with the triangle congruency relationships and proving techniques.</p>

# Lesson Plan Summary Template

Rtl Tier I Differentiation Activity	
<p>* <b>Mini-teach:</b> Similarity is first introduced in 7th grade and congruency in 5<sup>th</sup> grade. Explicit instruction* of these concepts will facilitate students' understanding of the triangular midpoint theorem.</p> <p><b>Engage:</b> Students having difficulty with vocabulary will develop a Frayer model small group poster.</p> <p><b>Explore:</b> Groups may be assigned based on student level to allow more directed guidance where needed using a selection of the activities provided below.</p>	<p>* Explicit Instruction includes teaching components such as:</p> <ul style="list-style-type: none"> <li>• clear modeling of the solution specific to the problem;</li> <li>• thinking the specific steps aloud during modeling;</li> </ul>

- presenting multiple examples of the problem and applying the solution to the

# MSTAR Project Components

- **MSTAR Academies**
  - Academy Part I: Core instruction
  - Academy Part II: Supplemental instruction
- **MSTAR Universal Screener**
  - Enables data-based decision making
- **MSTAR Intervention Project**
  - Provides sample intervention lessons

# Response to Intervention: Multi-tiered Model

## MSTAR Universal Screener

### Universal Screening

- TAKS Benchmark (at or below 80%)
- Examine and diagnose students' mathematical abilities (TXRCFP/TEKS)
- Identify students who qualify for Tier II and Tier III intervention

### Focused Core Curriculum/Instruction Tier I (TXRCFP/TEKS)

- Ensure all students receive the focused core curriculum and instruction
- Critical mathematics vocabulary
- Classroom teacher

### Differentiated Instruction

- Allocating time
- Flexible grouping to maximize engagement
- Scaffolding instruction
- Materials/technology

### Progress Monitoring

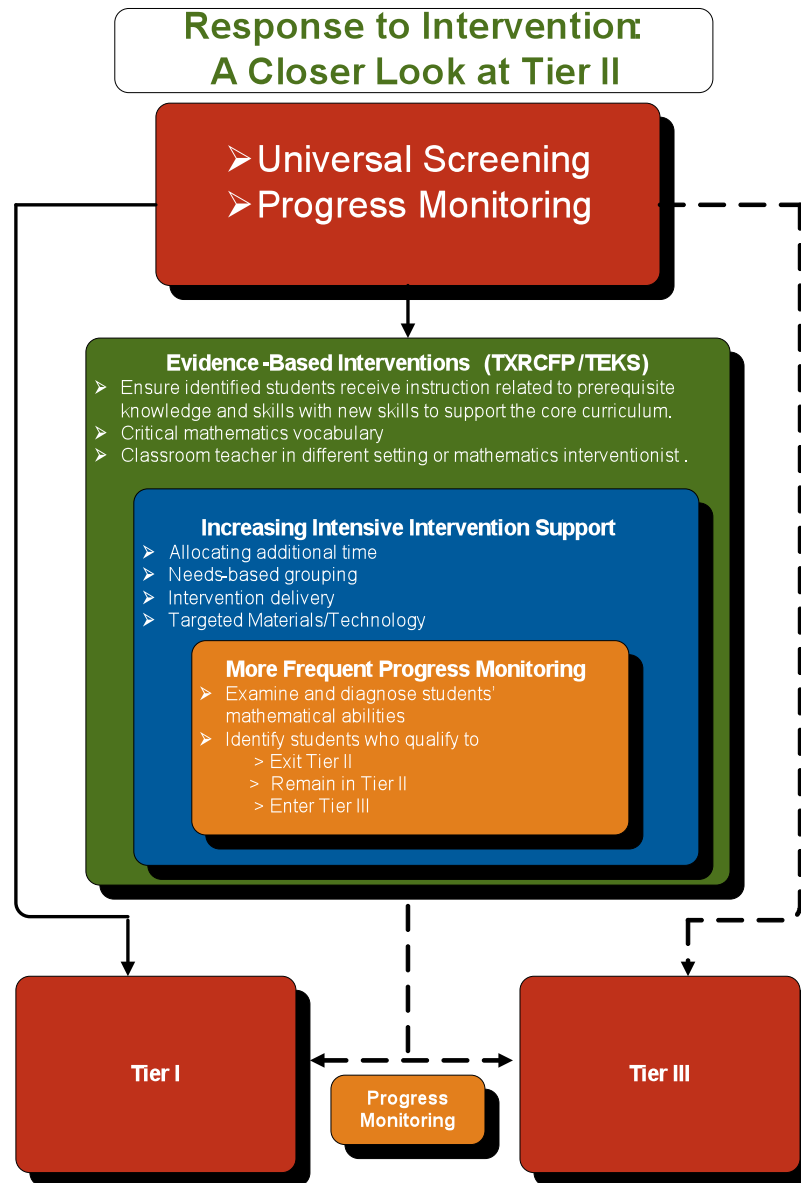
- Examine and diagnose students' mathematical abilities
- Identify students who qualify for Tier II and Tier III intervention

Tier II

Tier III

Progress Monitoring

# Rtl: A Closer Look at Tier II



# MSTAR Universal Screener

- Based on algebra-readiness content from TxRCFP, grades 5-8
- Designed to be administered in fall, winter, and spring
- Used as a formative assessment system to support instructional decisions
- Assesses Foundation, Bridging, and Target knowledge representations

[http://www.txar.org/assessment/  
mstar\\_screener.htm](http://www.txar.org/assessment/mstar_screener.htm)

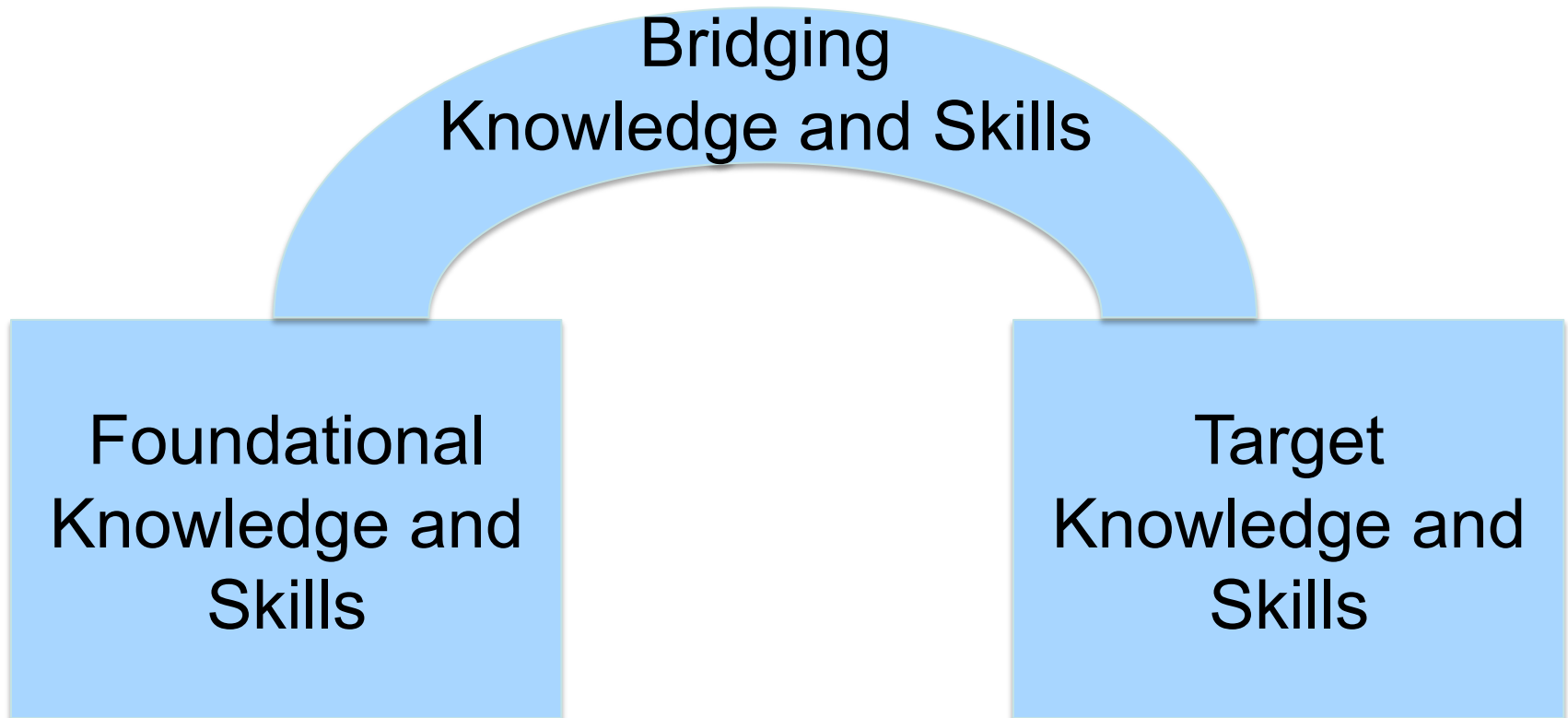
## Purpose of MSTAR Universal Screener

Identify students who are at-risk for struggling with algebra-related core instruction

- Determine ***IF*** interventions are needed
- Determine ***DEGREE OF INTENSITY*** of the intervention needed
- Monitor students' ***RISK STATUS***

*Not intended to provide diagnostic information*

# Connections Across the Knowledge Representations





- **Class Performance Summary Report**
- **MSTAR Comparison Reports**
  - **Comparisons Over Time**
  - **Comparisons Across Classes**
  - **Comparisons Across Grades**
  - **Comparisons Across Teachers**

# MSTAR Universal Screener Performance Levels

Tier III: **Intensive**  
Instructional Support



B: 1-5<sup>th</sup> Percentile Rank

A: 6-14<sup>th</sup> Percentile Rank

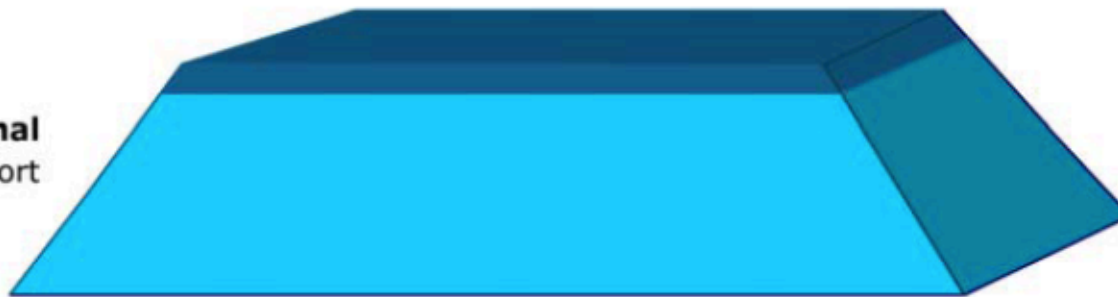
Tier II: **Strategic**  
Instructional Support



B: 15-24<sup>th</sup> Percentile Rank

A: 25-39<sup>th</sup> Percentile Rank

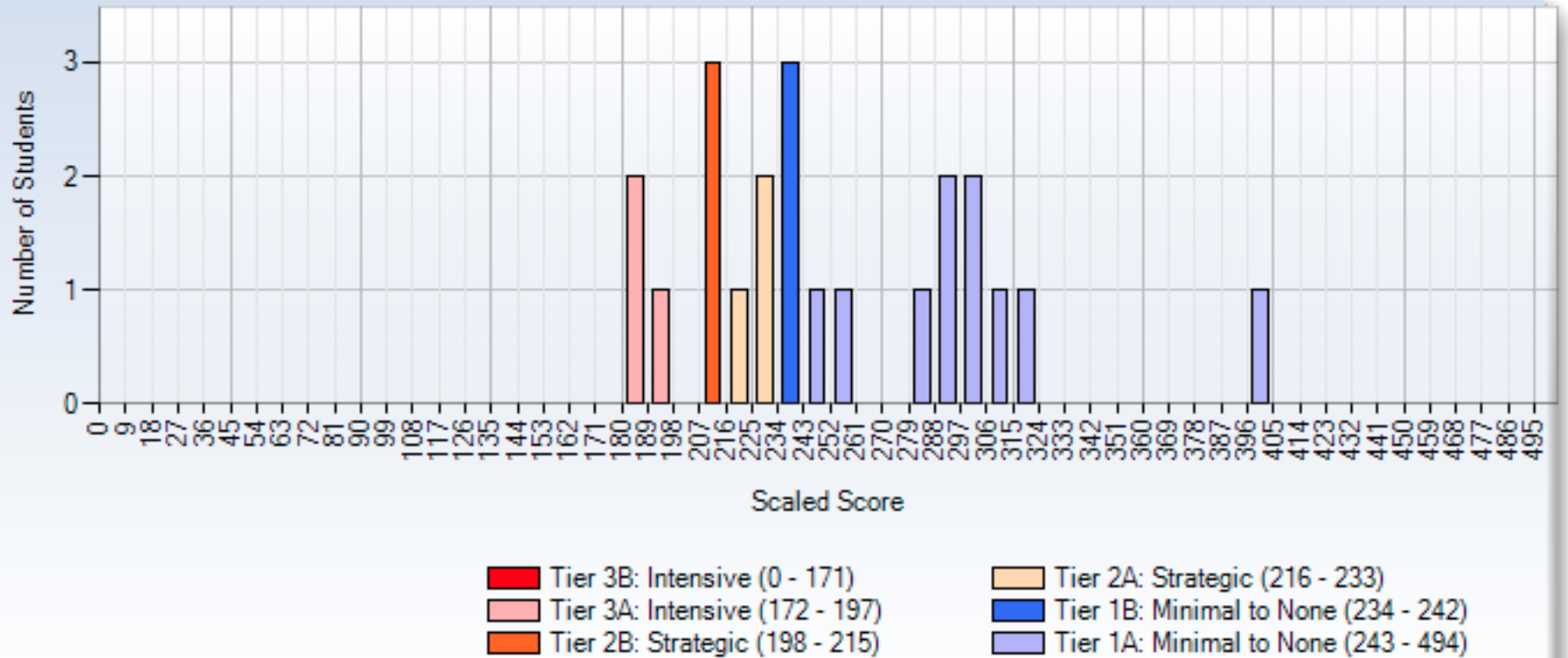
Tier I: **Minimal**  
Instructional Support



B: 40-49<sup>th</sup> Percentile Rank

A: 50-99<sup>th</sup> Percentile Rank

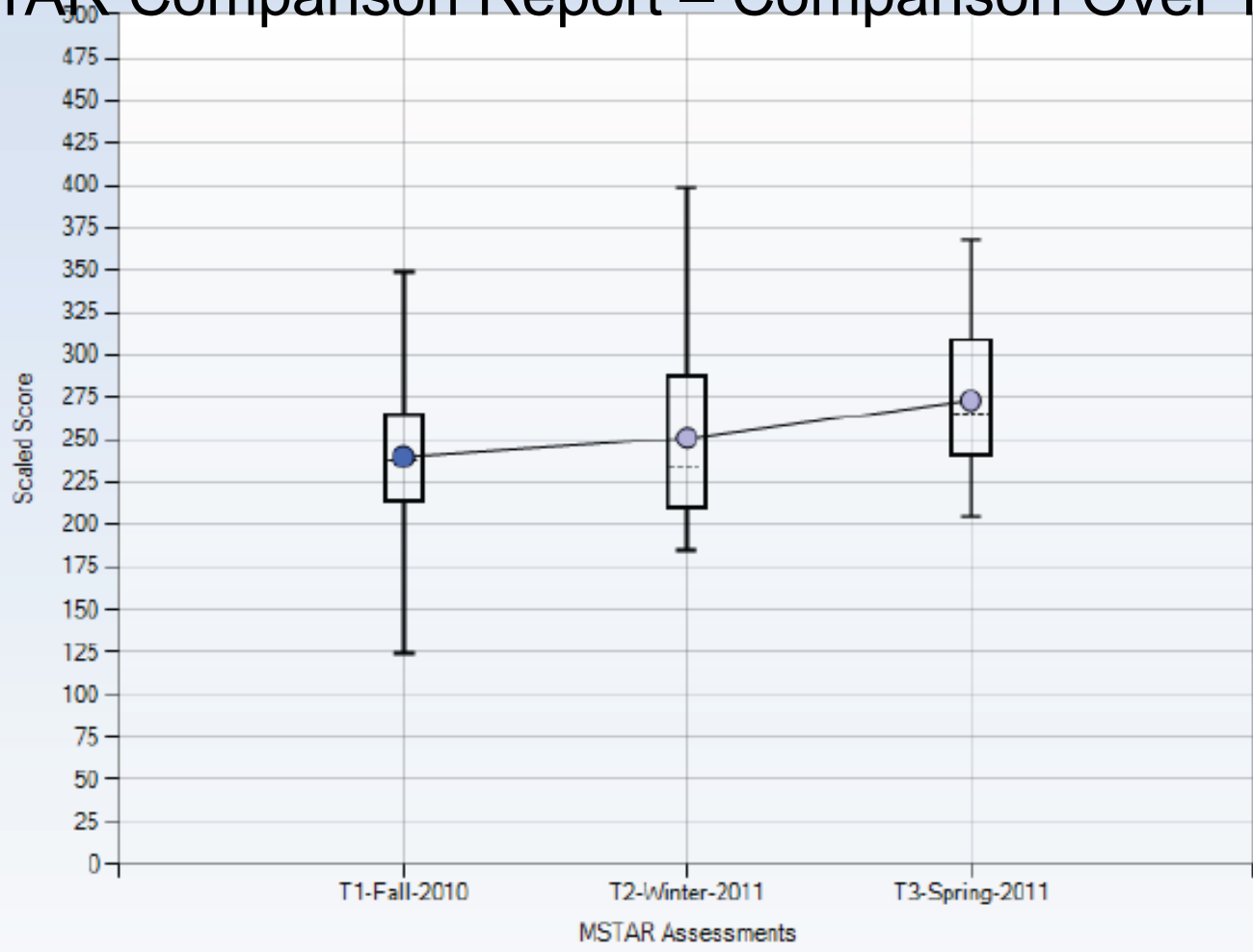
# Classroom Performance Summary Report



## ● Tier 3A: Intensive (3 Students)

Student	Scaled Score	Measurement Error <sup>i</sup>
Chism, Christopher	185	30
Evans, Laney	196	30

# MSTAR Comparison Report – Comparison Over Time



Box and Whisker    ○ Averages

REPORT KEY	
■ Tier 3B: Intensive (0 - 171)	■ Tier 2A: Strategic (216 - 233)
■ Tier 3A: Intensive (172 - 197)	■ Tier 1B: Minimal to None (234 - 242)
■ Tier 2B: Strategic (198 - 215)	■ Tier 1A: Minimal to None (243 - 494)



# **MSTAR Universal Screener Dates 2011-2012**

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August 29, 2011 - September, 27, 2011

January 2 - 31, 2012

April 2, 2012 - May 9, 2012

## Funded by the Meadows Foundation in Dallas

- Lesson plans for teachers working with grade 7/8 students
- Help for teachers to intervene with Tier II students
- Pre/post assessments for each unit
- Units based on concepts and skills which prohibit learning
- Available in the Project Share Platform

# Mathematics TEKS Revision

- State Board of Education (SBOE) process
- Review committees meetings: May, July, October
- Beginning point - “The Commissioner’s Draft of the Texas Mathematics Standards”
- <http://www.tea.state.tx.us/index2.aspx?id=2147499971>

# Texas Math and Science Diagnostic System (TMSDS)

- Math - Grades 3–8, Algebra I and II and Geometry
- Science - Grades 3–8, IPC, Biology, Chemistry, and Physics
- New Spanish items (soon)
- 3 diagnostic tests for each grade level/course - 30 questions each
- 5-question “mini-assessments” for most student expectations
- No cost for school districts and charter schools
- Technical assistance from ESCs
- [www.tmsds.org/](http://www.tmsds.org/)



## Presidential Awards (PAEMST)

The National Science Foundation, under the direction of the White House, approves the Texas candidates as finalists for the national Presidential Awards for Excellence in Math and Science Teaching (PAEMST) award. If chosen as a national winner, the state finalists will receive \$10,000 and an all-expense-paid trip for two to Washington D.C. for ceremonies that include recognition from the President of the United States at the Capital.

- Nominations (K-6) will open Fall 2011.
- Applications (K-6) are due May 1, 2012.
- More information at [www.PAEMST.org](http://www.PAEMST.org)



# Presidential Awards (PAEMST)

## 2010 Texas Elementary **Mathematics** Finalists

- **Lorene Wallace** is a 1<sup>st</sup> grade teacher at Bryker Woods Elementary School in Austin ISD and has 6 years of teaching experience.
- **Stephanie Weaver** is a 3<sup>rd</sup> grade teacher at Shadycrest Elementary School in Pearland ISD and has 14 years of teaching experience.



## Presidential Awards (PAEMST)

### 2010 PAEMST Awardee for Texas Mathematics



### Elizabeth Hudgins

Elizabeth Hudgins is a 5<sup>th</sup> grade teacher at Eanes Elementary School in Eanes ISD and has 8 years of teaching experience.

# Presidential Awards (PAEMST)

## 2011 Texas Secondary **Mathematics** Finalists

- **Cynthia Knowles** is a Pre-AP Geometry teacher at Eisenhower Senior High School in Aldine ISD and has 14 years of teaching experience. Her principal is Benjamin Ibarra and her superintendent is Wanda Bamberg.
- **Dixie Ross** is an AP Calculus teacher at Pflugerville High School in Pflugerville ISD and has 27 years of teaching experience. Her principal is Kirk Wrinkle and her superintendent is Charles Dupre.
- **Jill Stevens** is a high school mathematics teacher who teaches AP Calculus, IB courses, and Algebra II at Trinity High School in Hurst-Euless-Bedford ISD and has 35 years of teaching experience. Her principal is Mike Harris and her superintendent is Gene Buinger.

# Texas English Language Learners Instructional Tool (TELLIT)

- Sixteen 2-hour online courses for teachers of ELL students
- Video segments of teachers using effective strategies targeting cognitive, linguistic and affective learning environments
- <http://www.elltx.org/trainings.html>

*Introducing a global online learning community where educators collaborate, share resources, and showcase accomplishments:*

<http://www.projectsharetexas.org/index.html>

The screenshot shows the Project Share website interface. At the top center is the logo for "project Share" with the tagline "Knowledge knows no boundaries". To the right of the logo is a login form with fields for "Username" and "Password", a "Login" button, and a link for "Forgot Username or Password?". Below the logo and login form is a navigation bar with three tabs: "ABOUT", "EDUCATORS", and "STUDENTS". The main content area has a blue background with white clouds and the text "EDUCATED IN TEXAS, CONNECTED TO THE WORLD." at the bottom.

- Complete online professional development courses
- Collaborate and share resources with other teachers
- Access digital content
  - Online repositories
  - State-owned instructional materials

- Questions may be sent to the Project Share mailbox: [projectshare@tea.state.tx.us](mailto:projectshare@tea.state.tx.us)
- TEA Contact is Kerry Ballast: [kerry.ballast@tea.state.tx.us](mailto:kerry.ballast@tea.state.tx.us)
- More information is available on the Project Share website: [www.projectsharetexas.org/](http://www.projectsharetexas.org/)



## Join All Agency LISTSERV Groups:

<http://miller.tea.state.tx.us/list/>

## Contact the Division of Curriculum:

Website <http://www.tea.state.tx.us/index2.aspx?id=2147486096>

Phone (512) 463-9581

Email [curriculum@tea.state.tx.us](mailto:curriculum@tea.state.tx.us)



# Mathematics Curriculum Contact Information

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Mathematics Webpage

<http://www.tea.state.tx.us/index4.aspx?id=3449>

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