

# **TEA Mathematics Curriculum Update**

*Texas Association of Supervisors of Mathematics  
February 17, 2012 – Austin, Texas*

*Everly Broadway, Ed.D.*



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

# Higher Expectations

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- More Rigorous Accountability Standards

<http://ritter.tea.state.tx.us/perfreport/account/2011/manual/table8.pdf>

- College and Career Readiness Standards

<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://ritter.tea.state.tx.us/rules/tac/chapter111/ch111c.html#111.37>.

# Algebra Readiness Components

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

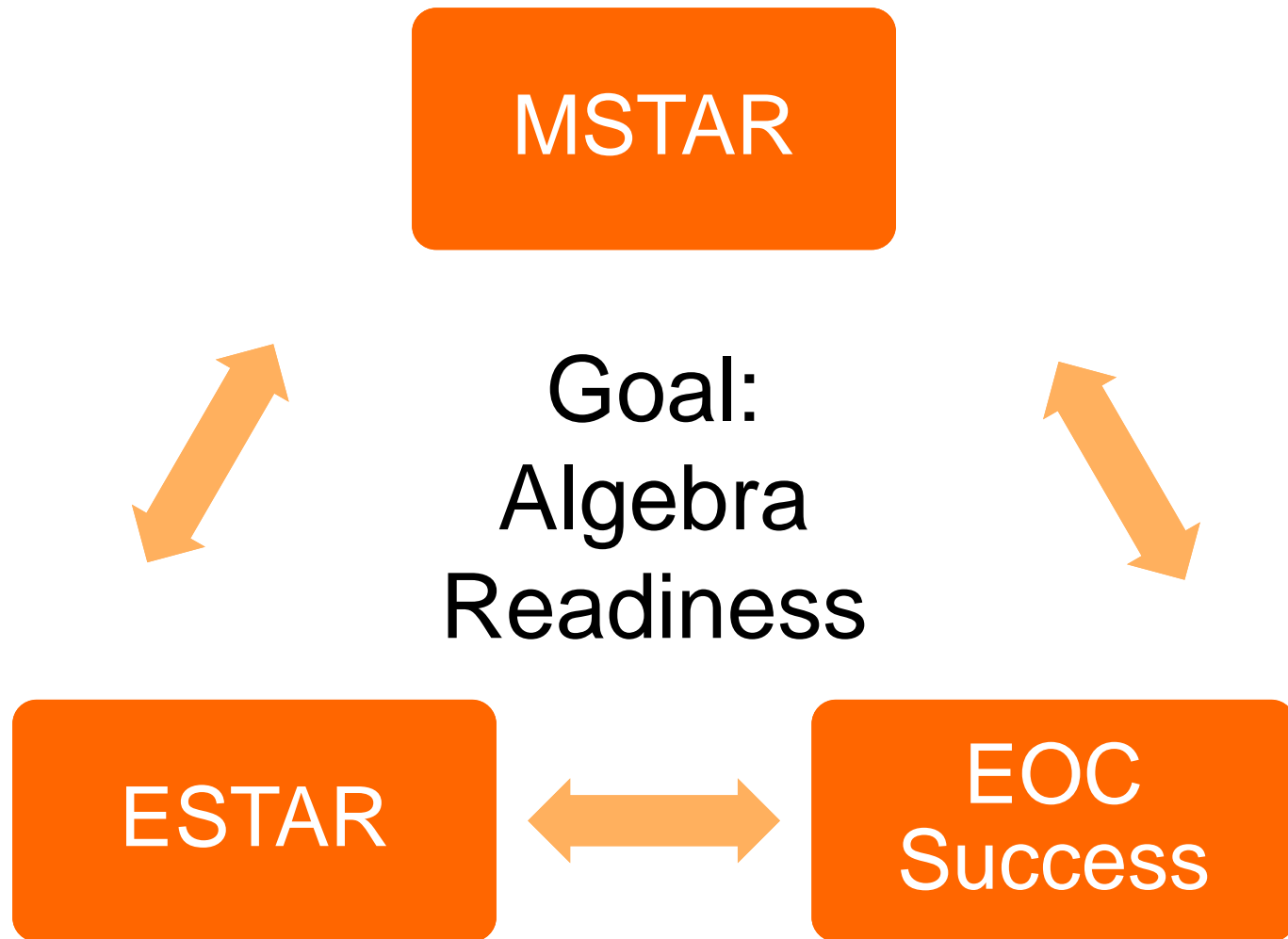
*Website: (TXAR) Texas Algebra Ready---*  
<http://txar.org/>

# Systemic Approach to Professional Development

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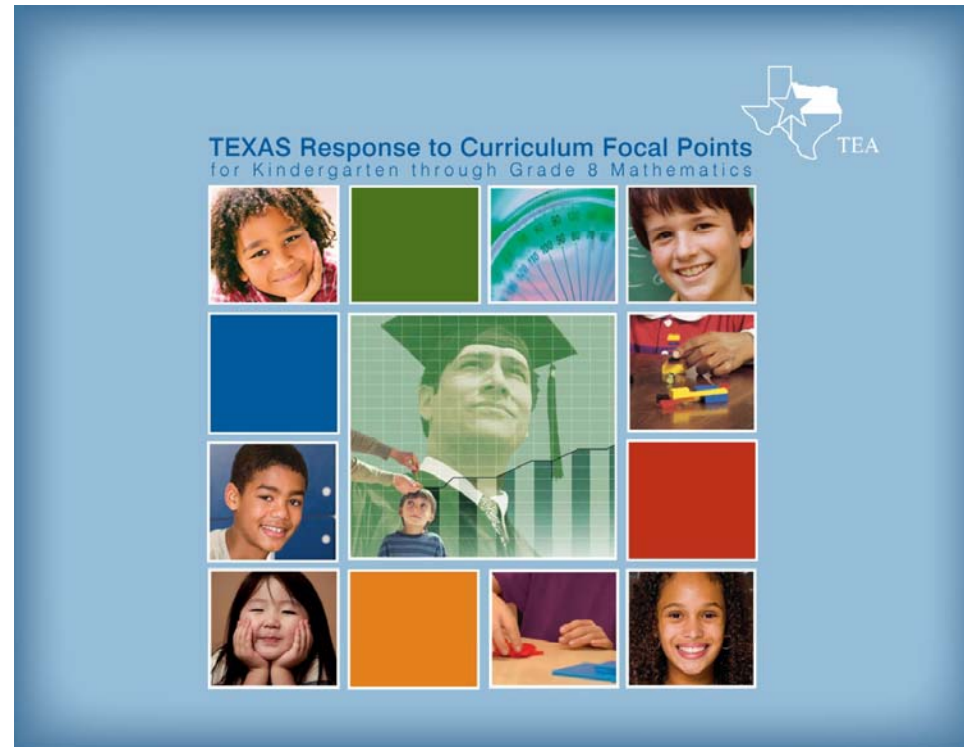
- Initial Focus on Middle Grades (5-8)
- Series of Professional Development Opportunities with Online Follow-up
  - Curriculum Focal Areas
  - Tier I Instruction
  - Tier II Instruction
  - Instructional Tools

# Mathematics Professional Development Academies





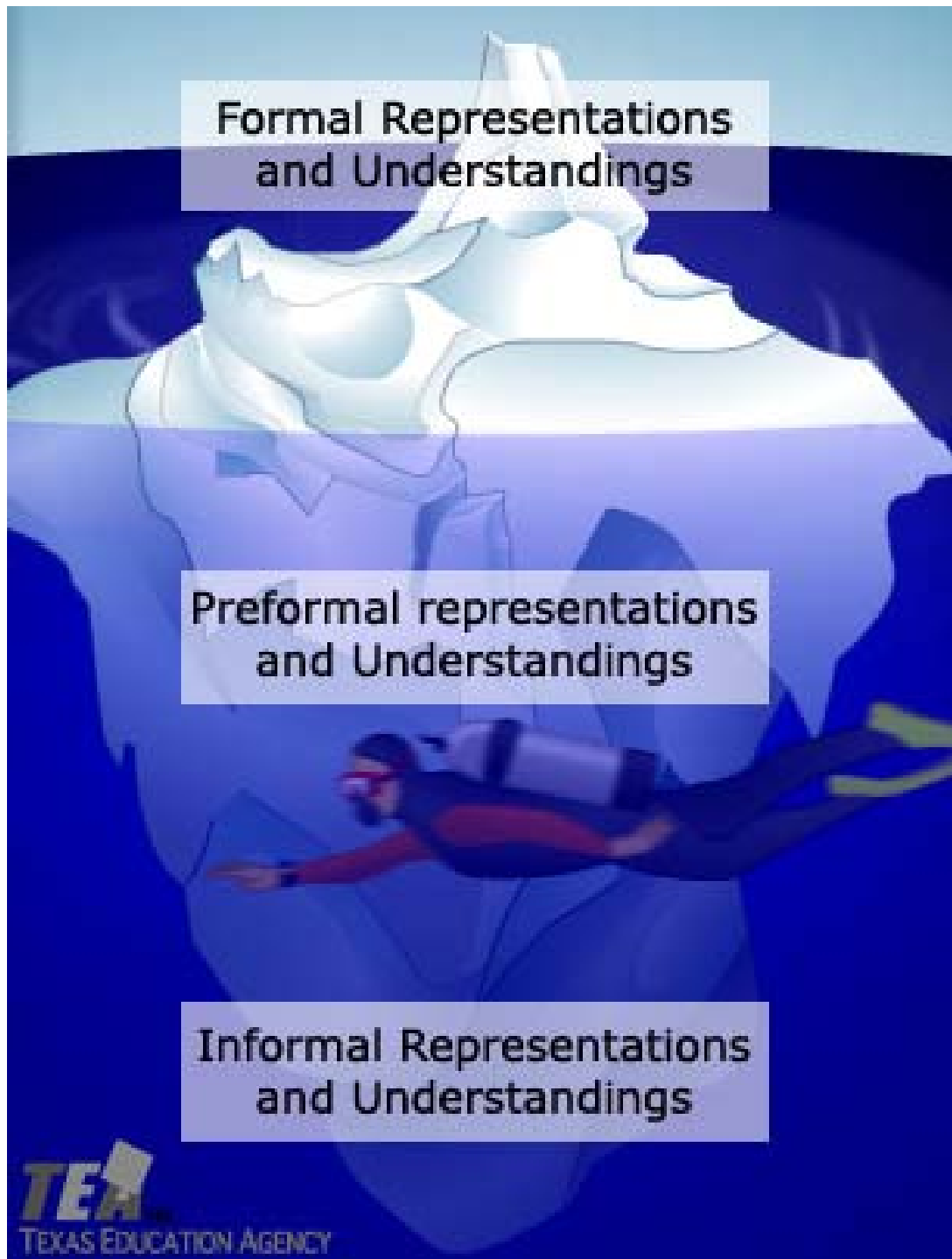
# Texas Response to Curriculum Focal Points



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

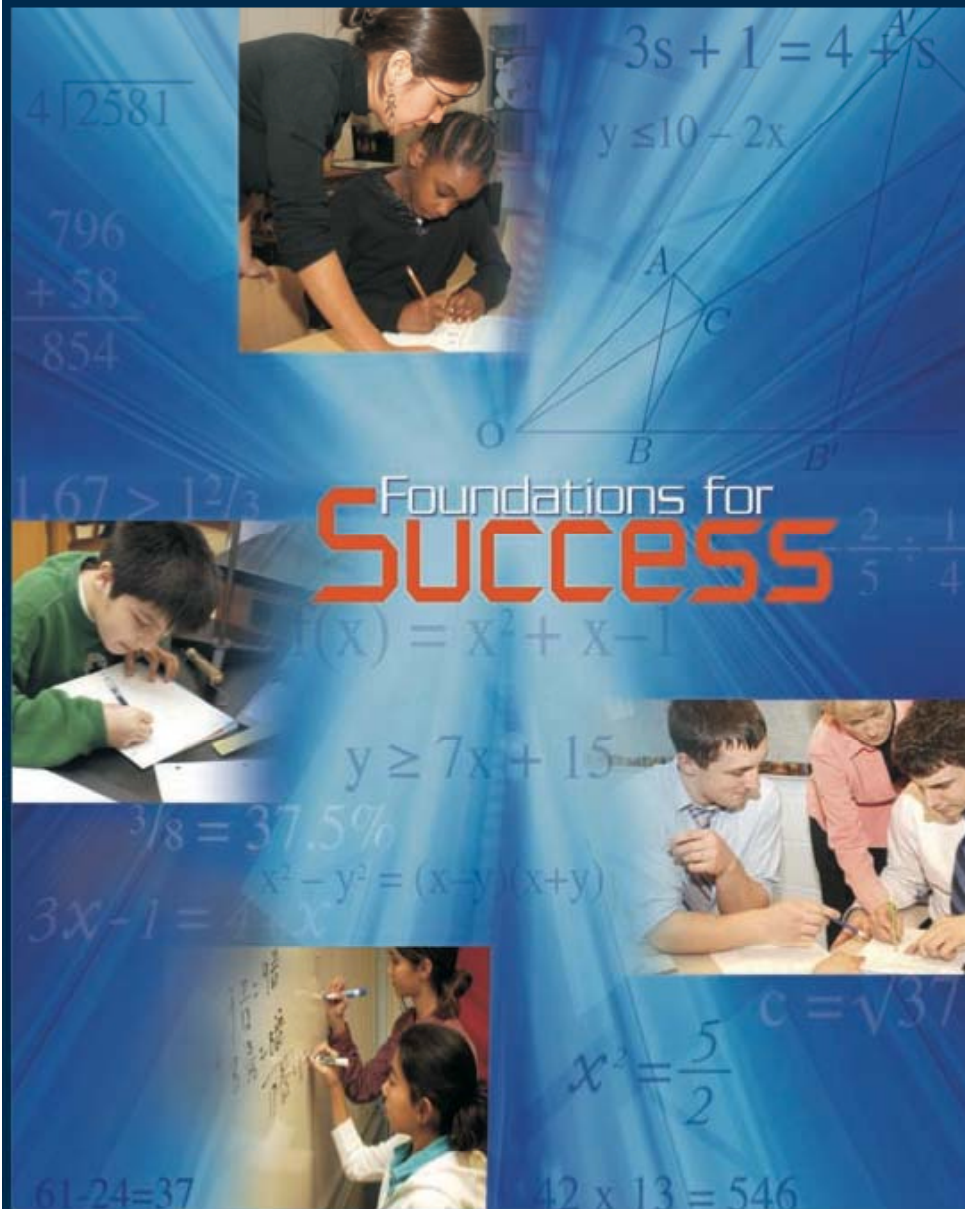
## Texas Response to Curriculum Focal Points K-8

- 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.



Foundations for  
**SUCCESS**

**The National Mathematics Advisory Panel**

**Final Report • 2008**

# National Mathematics Advisory Panel

## Final Report 2008

# Current Professional Development

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- ESTAR
- MSTAR Academy I
- MSTAR Academy II
- GATAR
- Algebra I EOC Success
- Geometry EOC Success
- Algebra II EOC Success

*Contact your ESC for details on professional development.*

# Future Professional Development

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*Summer 2012 and School Year 2012-2013*

- ESTAR Academy II
- MSTAR Implementation Tools
- Algebra I EOC Success Academy II

*Details will be available soon from your ESC.*

# Future Professional Development

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*Summer 2013 and School Year 2013-2014*

- Geometry EOC Success Academy II
- Algebra II EOC Success Academy II

*ESCs will share information as it becomes available.*

# Professional Development Promotional Videos

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- MSTAR Academy Overview

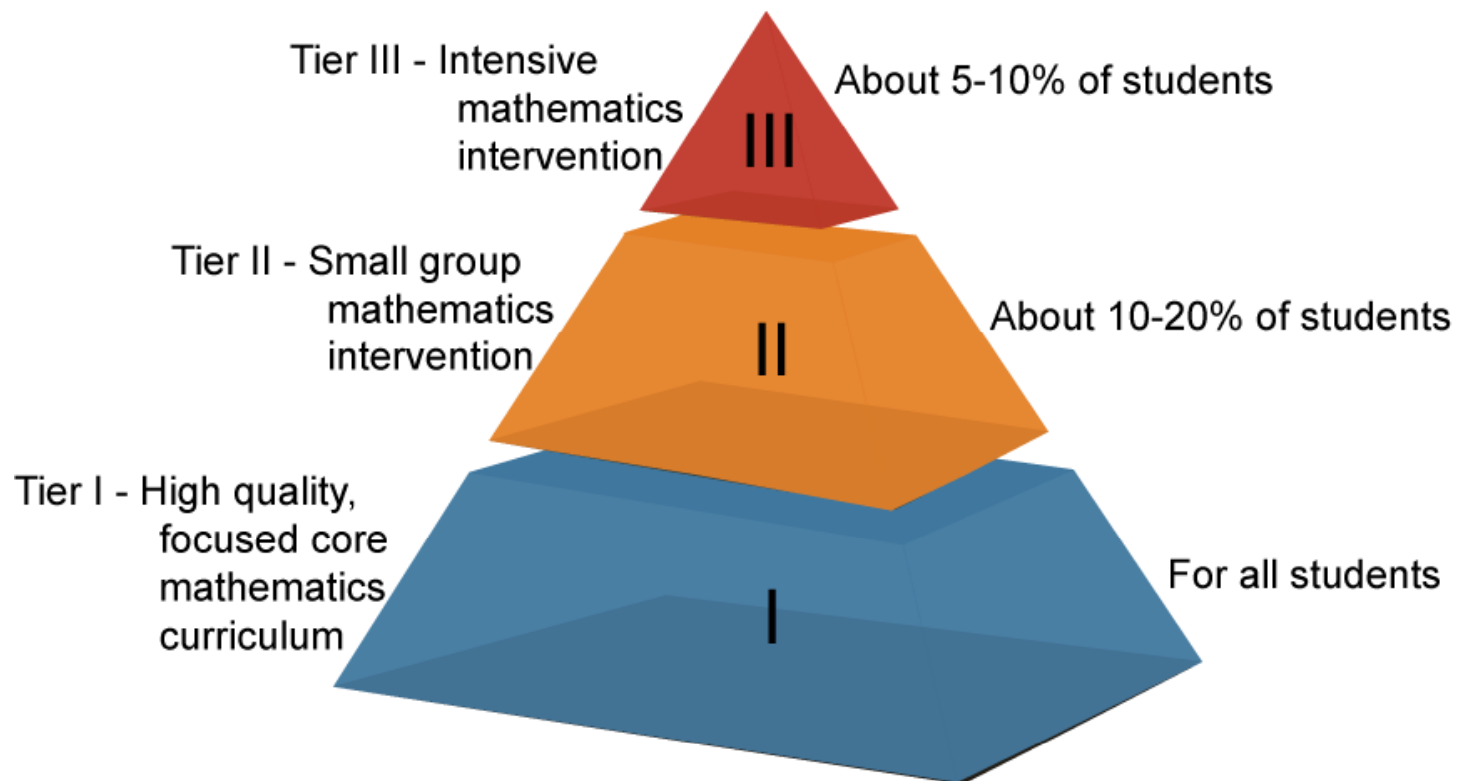
<http://itunes.apple.com/us/podcast/mstar-academy-overview/id435787150?i=94066617>

- Math Academies—Promotional Video

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



## 3 - Tier Intervention Model



# 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



**Content Objective:** The student uses geometric constructions to make, test, and justify conjectures.

**Language Objective:** C3(C) The student is expected to learn new language structures, expressions, and basic and academic vocabulary heard during classroom instruction and interactions.

**Vocabulary:** midpoint, congruent, similar

**Prior Knowledge:** Students are expected to be familiar with the triangle congruency relationships and proving techniques.

# Lesson Plan Summary Template

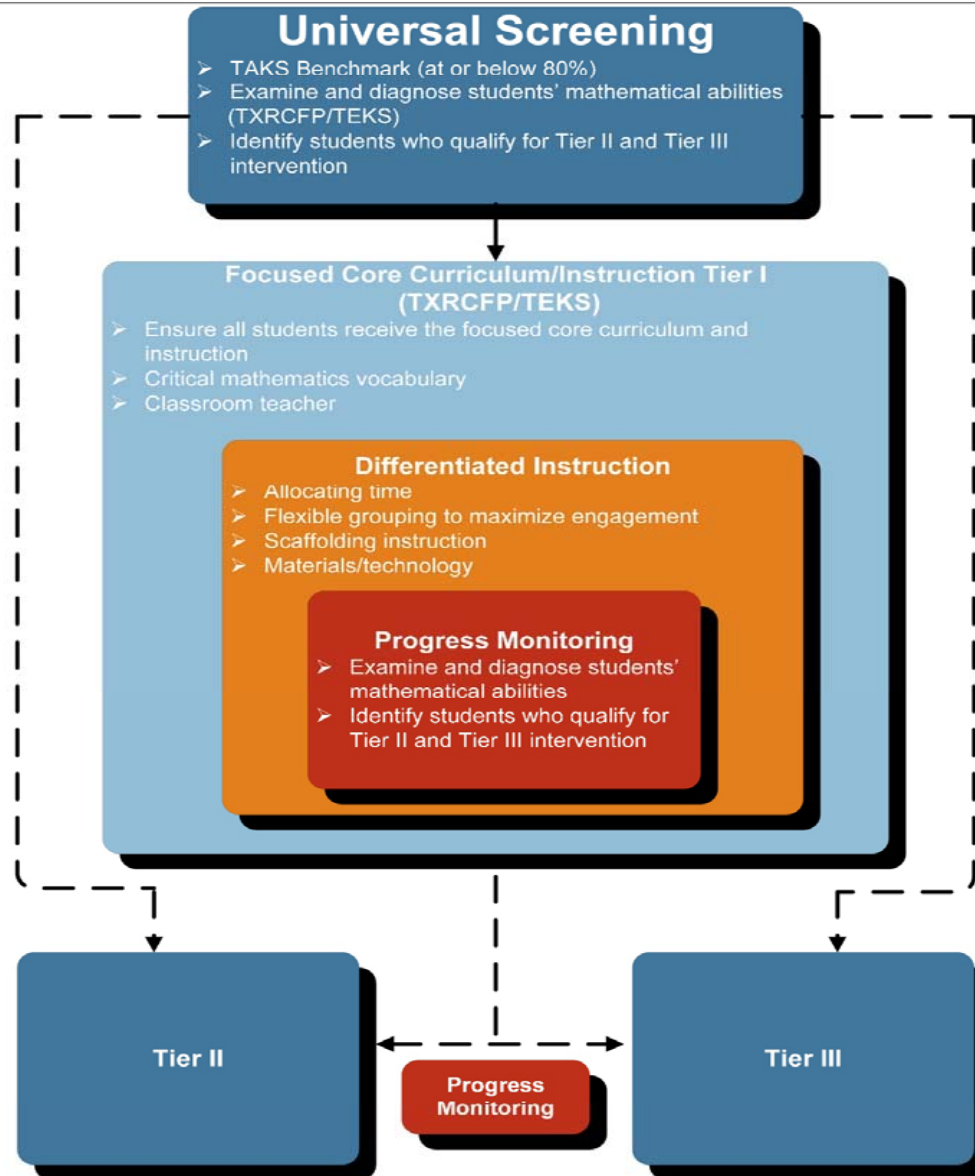
Rtl Tier I Differentiation Activity		Activity
<p><b>* Mini-teach:</b> Similarity is first introduced in 7th grade and congruency in 5<sup>th</sup> grade. Explicit instruction* of these concepts will facilitate students' understanding of the triangular midpoint theorem.</p> <p><b>Engage:</b> Students 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> <li>• presenting multiple examples of the problem and applying the solution to the problems; and</li> <li>• providing immediate corrective feedback to the students on their accuracy.</li> </ul>	<p>od</p> <p>a</p> <p>and</p>

# Current MSTAR Project Components

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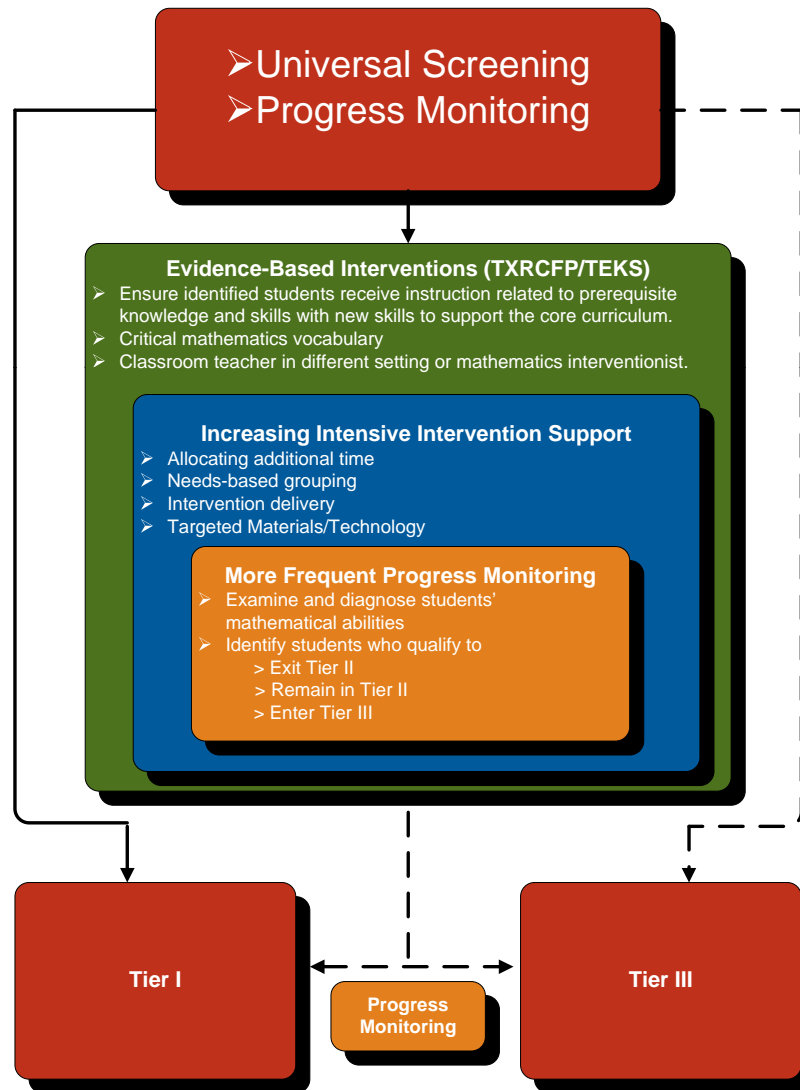
- MSTAR Academies
  - Academy Part I: Core instruction
  - Academy Part II: Supplemental instruction
- MSTAR Universal Screener
  - Enables data-based decision making
- MSTAR Intervention Project
  - Provides sample intervention lessons

## Response to Intervention: Multi-tiered Model MSTAR Universal Screener



# RtI: A Closer Look at Tier II

## Response to Intervention: 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

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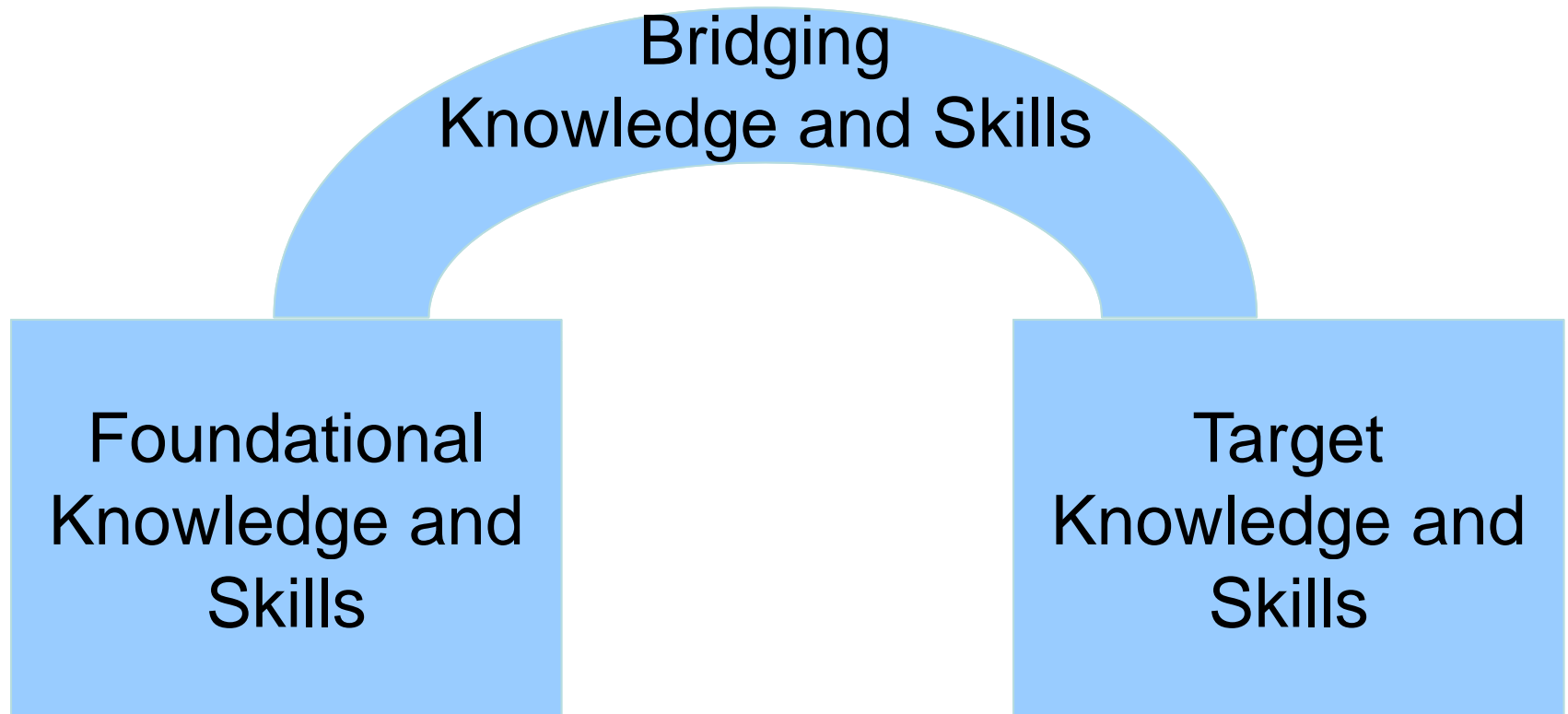
Identify students who are at-risk for struggling with algebra-related core instruction

- 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

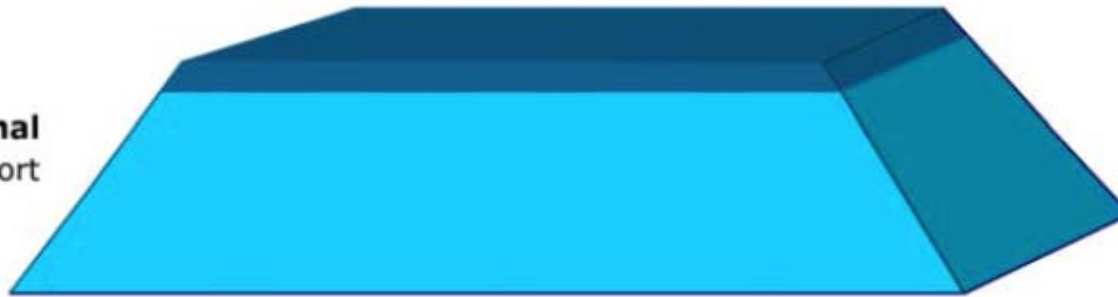
Tier II: **Strategic**  
Instructional Support



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

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

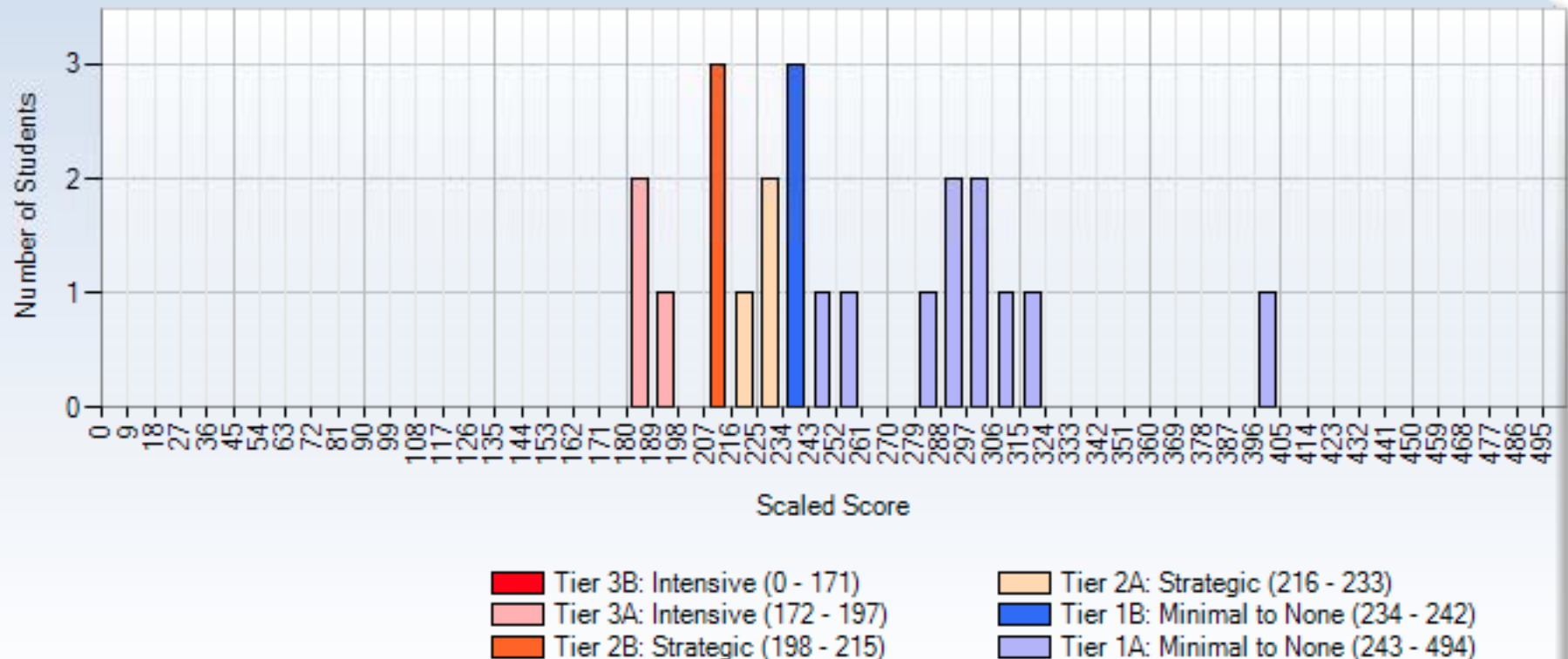
Tier I: **Minimal**  
Instructional Support



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

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

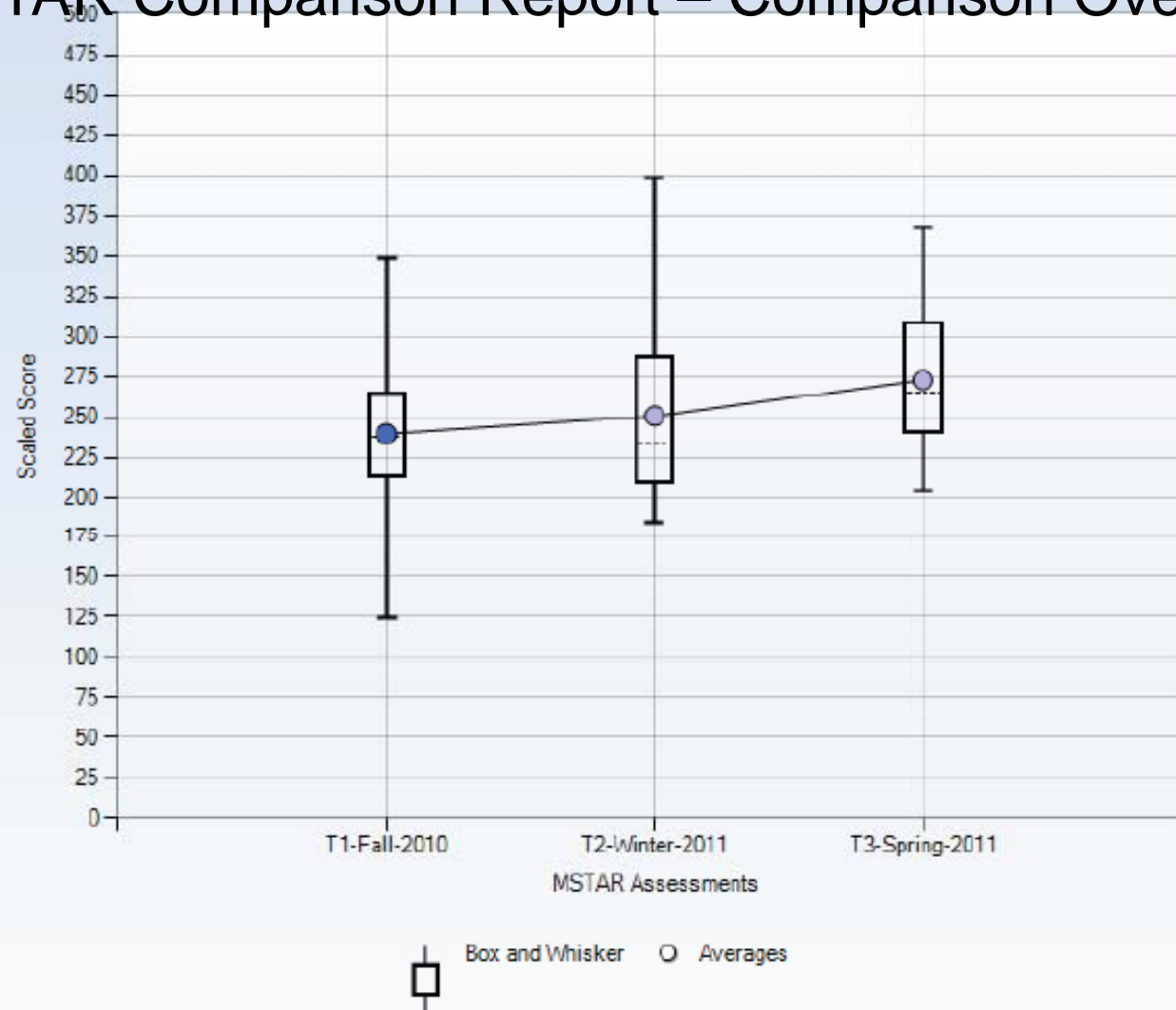
# Classroom Performance Summary Report



## ● Tier 3A: Intensive (3 Students)

Student	Scaled Score	Measurement Error ⓘ
Chism, Christopher	185	30
Evans, Laney	196	30

# MSTAR Comparison Report – Comparison Over Time



## 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 – October 4, 2011

January 2 - 31, 2012

April 2, 2012 - May 9, 2012

# MSTAR Diagnostic Assessment

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- Currently being developed
- Design based on Item Response Theory
- Given after the MSTAR Screener as needed
- Pilot testing expected in 2012-2013

## 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*



# **MSTAR Intervention Modules**

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- **MSTAR INTV: Facts & Patterns: Mult. & Div.**  
<http://www.epsilen.com/crs/1012499>
- **MSTAR INTV: Equivalent Fractions**  
<http://www.epsilen.com/crs/1011427>
- **MSTAR INTV: Proportionality**  
<http://www.epsilen.com/crs/1116059>
- **MSTAR INTV: Ratios and Rates**  
<http://www.epsilen.com/crs/1012676>

# Mathematics TEKS Revision

- State Board of Education (SBOE) process
- Review committees meetings during 2011:  
May, July, October
- Beginning point - “The Commissioner’s Draft of the Texas Mathematics Standards”
- <http://www.tea.state.tx.us/index2.aspx?id=2147499971>

# Mathematics TEKS Revision

- January 2012 – Public Hearing, First Reading and Filing Authorization
- Exact Dates TBA – Public Comment Period  
(<http://www.tea.state.tx.us/index4.aspx?id=2386> )
- April 2012 – Public Hearing, Second Reading and Final Adoption

Press Release 1/27/2012:

<http://www.tea.state.tx.us/index4.aspx?id=2147505332>

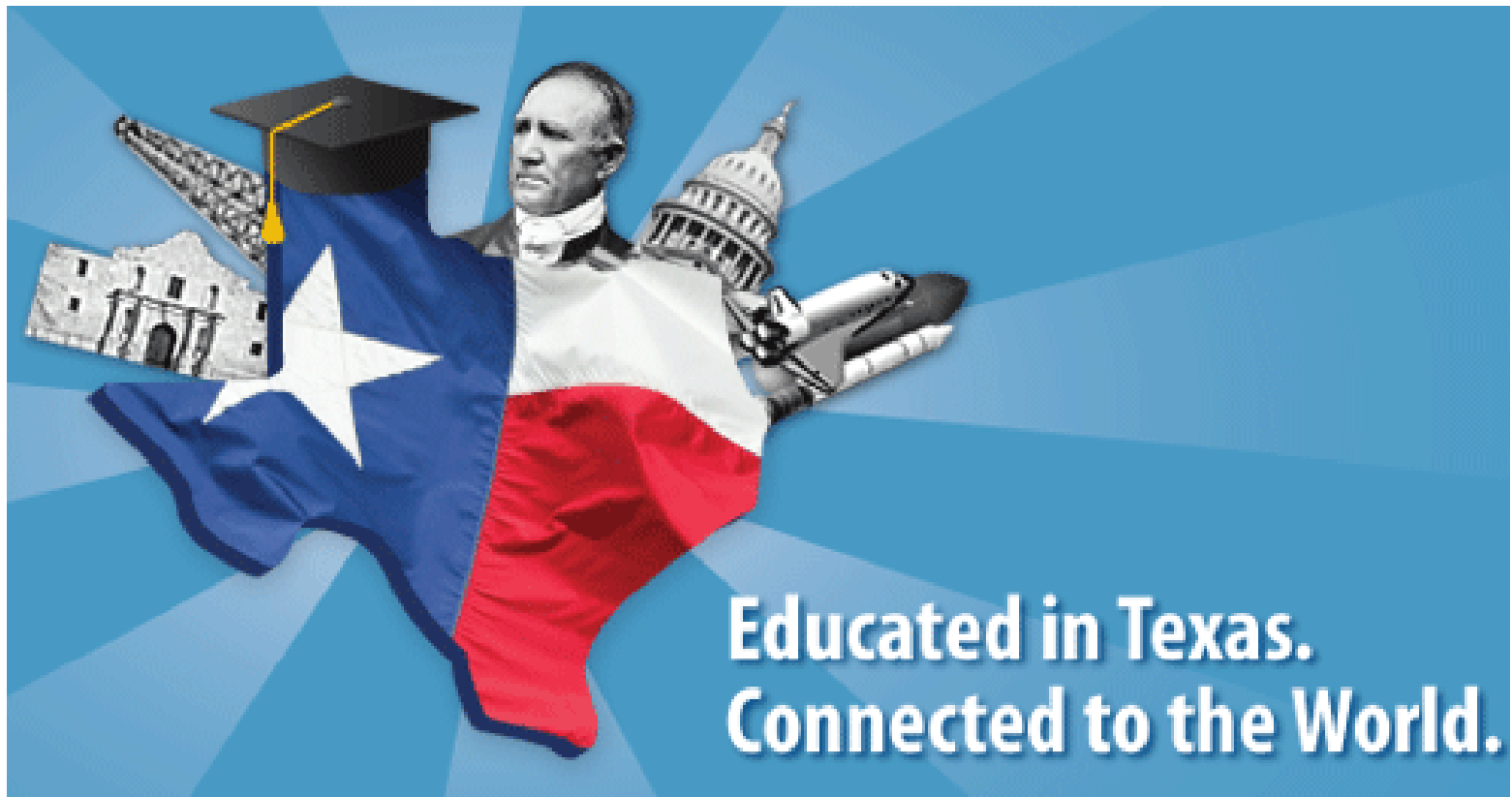
# Texas Math and Science Diagnostic System (TMSDS)

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- 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/)

# Texas Education on iTunes U



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

# Name the Space Orbiter at Space Center Houston Contest February 27-April 1, 2012

*In addition to being able to have an historical artifact bear the name chosen by the contest winner, the winner's school will receive a \$5,000 donation, and the winning student will receive a Space Center Houston membership for a family of four, hotel accommodations for one night's stay at a nearby hotel, and four free passes to have lunch with an astronaut.*

*Additional Details to Come !*



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





## 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)

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- 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>

# Project Share

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

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



The image shows a screenshot of the Project Share website. At the top center is the logo for "project share" with a globe icon in the "o" of "project". Below the logo is 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 login form is a navigation bar with three tabs: "ABOUT", "EDUCATORS", and "STUDENTS". The main content area has a blue background with white cloud graphics. At the bottom, the text "EDUCATED IN TEXAS. CONNECTED TO THE WORLD." is displayed in white capital letters.

project share<sup>TM</sup>  
Knowledge knows no boundaries

Username   
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ABOUT EDUCATORS STUDENTS

EDUCATED IN TEXAS. CONNECTED TO THE WORLD.

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

Welcome: **Everly Broadway**  
<http://www.epsilen.com/ebroadwa>

## Add your favorite tools by dragging the links from left navigation ##

## Courses ?

Use the Courses tool (Epsilen Global Learning System, or GLS) to access and manage your courses. [Create a new course](#)













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Course	Description	My Role	Messages	Forums	Starts/Ends	Action
<a href="#">MSTAR Academy I: More About Tier II for the Math Learner, Version 1.0</a> development/institution release copy Members: 9	The purpose of this course is to help you more ful <a href="#">Read more about MSTAR Academy..</a>	Student			1/6/2011 7/6/2015	  
<a href="#">MSTAR Academy I: Addressing the G/T Math Learner through RtI, Version 1.0</a> institution release copy Members: 13	The purpose of this course, MSTAR Academy I: Addre <a href="#">Read more about MSTAR Academy..</a>	Student			1/6/2011 7/6/2015	  
<a href="#">MSTAR Academy I: Fraction/Decimal Relationships and Operations Version 1.0</a> Institution Release Copy Members: 10	This course is a continuation of the content addre <a href="#">Read more about MSTAR Academy..</a>	Student			12/6/2010 6/6/2015	  
<a href="#">Algebra I End of Course Success (self-paced), Version</a>	The Algebra I End of Course Success training	Administrator			10/5/2010 12/31/2015	  

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Rubrics

- 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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**Everly Broadway, Ed.D.**

(512) 463-9581

[everly.broadway@tea.state.tx.us](mailto:everly.broadway@tea.state.tx.us)

Mathematics Webpage

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

Texas Algebra Ready Webpage

<http://txar.org>



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We strive to provide leadership, guidance, and resources to help schools meet the educational needs of all students.