


Introduction to the **Revised Mathematics TEKS**

**MATHEMATICAL PROCESS STANDARDS
JOURNAL
GRADES 6 - 8**



The materials are copyrighted (c) and trademarked (tm) as the property of the Texas Education Agency (TEA) and may not be reproduced without the express written permission of TEA, except under the following conditions:

Texas public school districts, charter schools, and Education Service Centers may reproduce and use copies of the Materials and Related Materials for the districts' and schools' educational use without obtaining permission from TEA.

Residents of the state of Texas may reproduce and use copies of the Materials and Related Materials for individual personal use only without obtaining written permission of TEA.

Any portion reproduced must be reproduced in its entirety and remain unedited, unaltered and unchanged in any way.

No monetary charge can be made for the reproduced materials or any document containing them; however, a reasonable charge to cover only the cost of reproduction and distribution may be charged.

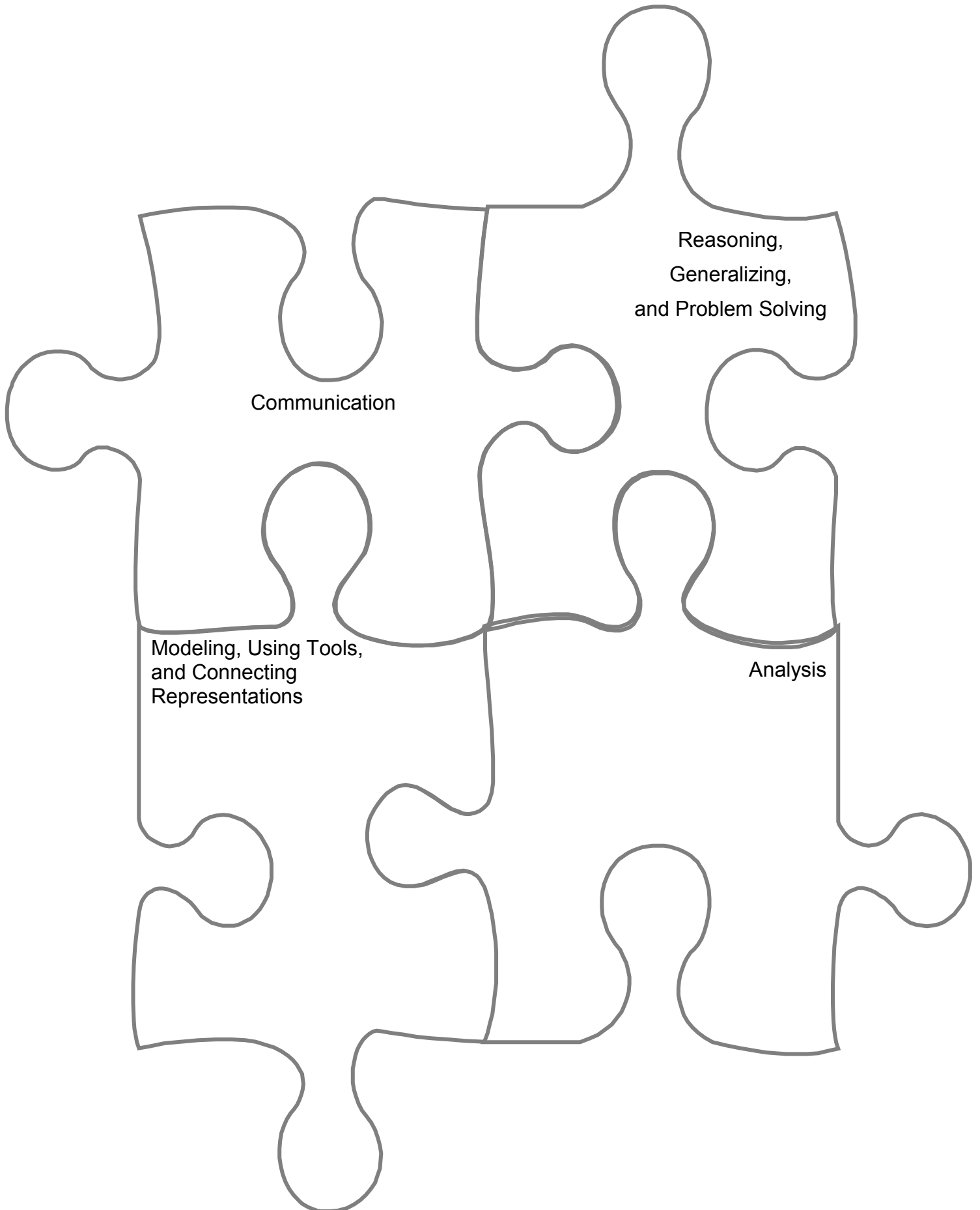
Private entities or persons located in Texas that are not Texas public school districts, Texas Education Service Centers, or Texas charter schools or any entity, whether public or private, educational or non-educational, located outside the state of Texas MUST obtain written approval from TEA and will be required to enter into a license agreement that may involve the payment of a licensing fee or a royalty.

For information contact:

Office of Copyrights, Trademarks, License Agreements, and Royalties,
Texas Education Agency,
1701 N. Congress Ave., Austin, TX 78701-1494;
phone: 512-463-9270 or 512-463-9437;
email: copyrights@tea.state.tx.us.

©2013 Texas Education Agency All Rights Reserved 2013

Exploring The Mathematical Process Standards



Exploring The Mathematical Process Standards (continued)

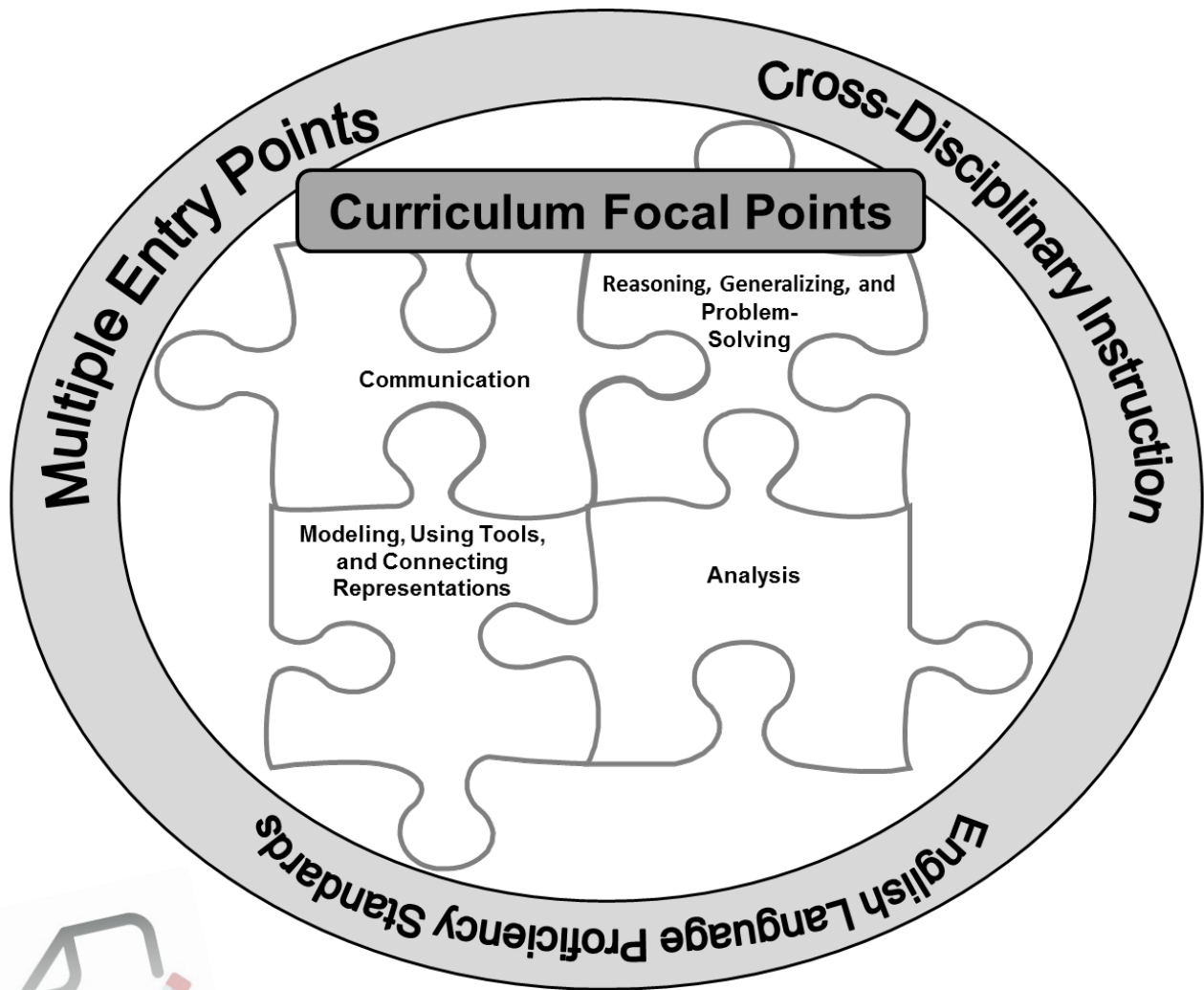
Similarities	Differences



How do the new mathematical process standards compare to the current mathematical process standards?

Vocabulary Notes

ELPS	Cross-Disciplinary Instruction	Multiple Entry Points	Levels of Cognitive Demand
<p>The English Language Proficiency Standards (ELPS) outline the instruction school districts must provide to English language learners in order for them to have full _____ to learn English and _____ academically. The ELPS are to be implemented as an integral part of the instruction in each _____ and _____ subject of the TEKS. Effective instruction and second language acquisition involves giving English language learners opportunities to listen, speak, read, or write at their _____ level of English language development in _____.</p>	<p>This term refers to skills and processes that cut across _____ disciplines (English/language arts, reading, math, science, and social studies). Related standards are found in the _____.</p> <p>CCRS</p> <p>The CCRS (College and Career Readiness Standards) includes the _____ and _____ Standards and is a resource designed to help students, parents, teachers, and counselors understand the specific _____ knowledge and _____ skills necessary for college and career readiness. The cross-disciplinary standards are organized into two major areas: Key _____ Skills and _____ Skills.</p>	<p>Tasks with _____ entry points are those which have varying degrees of _____ within the task, or provide students with varied _____, _____, and _____ to actively participate in the task.</p>	<p>Tasks that command engagement with the concepts and that encourage students to make connections leading to different opportunities for student thinking, such as _____ tasks, _____ procedures _____ connections tasks, procedures _____ connections tasks, and _____ mathematics tasks.</p>



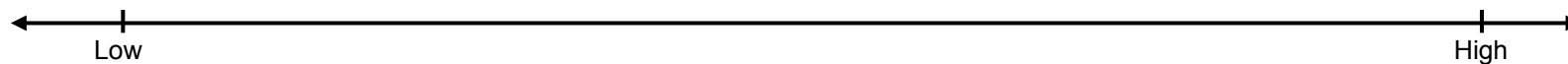
Since the new mathematical process standards are identified within each TxRCFM focal point, what are the implications for students' acquisition and demonstration of their mathematical understandings?

Examining Amplified Instructional Task 1

Task: _____

		Communication	Reasoning, Generalizing, and Problem Solving	Modeling, Using Tools, and Connecting Representations	Analysis
Instructional Strategies	English Language Proficiency Standards				
	Multiple Entry Points				
CCRS	Cross-Disciplinary				

Mark your perceived level of cognitive demand for this task on the continuum below:

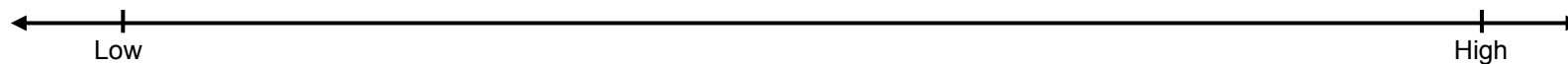


Examining Amplified Instructional Task 2

Task: _____

		Communication	Reasoning, Generalizing, and Problem Solving	Modeling, Using Tools, and Connecting Representations	Analysis
Instructional Strategies	English Language Proficiency Standards				
	Multiple Entry Points				
CCRS	Cross-Disciplinary				

Mark your perceived level of cognitive demand for this task on the continuum below:



Amplifying Instructional Tasks Brainstorming – Grade 6 Example

		Considerations for Brainstorming			
		Consider the 2012 TEKS in the Original Task	Consider the Curriculum Focal Point	Consider the Context	Consider the Student
Guiding Questions	Consider the 2012 TEKS in the Original Task	What main concepts and/or skills are involved in this task? What are related concepts and/or skills?	What else might be explored or applied? <ul style="list-style-type: none"> Additional mathematical ideas from the focal points Grade level connections Financial literacy standards 	What else could be explored within this context? What related ideas could be added to this context? What connections could be made to other content areas?	What Tier I differentiation may be needed to reach the student who is <ul style="list-style-type: none"> struggling, learning English, and/or advanced?
	Brainstorming	Main Concepts and/or Skills <i>Write one-variable, one-step equations</i> 6(9)(A)	Standards <ul style="list-style-type: none"> <i>Process Standards 6(1)(A)-(G)</i> <i>Determine if two expressions are equivalent 6(7)(C)</i> <i>Generate equivalent expressions using properties of operations 6(7)(D)</i> <i>Model and solve one-variable, one-step equations 6(10)(A)</i> <i>Determine if the given values make one-variable, one-step equations true 6(10)(B)</i> 	<ul style="list-style-type: none"> <i>Geometry concepts</i> <i>Sports</i> <i>Time</i> <i>Music</i> 	Struggling <ul style="list-style-type: none"> <i>Provide scaffolding tools (leading questions)</i> <i>Provide opportunities to check in and verify content</i>
	Related Concepts and/or Skills <i>Everyday life 6(1)(A)</i>	Learning English <ul style="list-style-type: none"> <i>Provide opportunities to speak and listen</i> <i>Provide opportunities to check in and verify vocabulary</i> 			
				Advanced <ul style="list-style-type: none"> <i>Extend problem to new situations</i> <i>Open-ended applications</i> 	

Amplifying Instructional Tasks Brainstorming – Grade 8 Example

		Considerations for Brainstorming			
		Consider the 2012 TEKS in the Original Task	Consider the Curriculum Focal Point	Consider the Context	Consider the Student
Guiding Questions	Consider the 2012 TEKS in the Original Task	What main concepts and/or skills are involved in this task? What are related concepts and/or skills?	What else might be explored or applied? <ul style="list-style-type: none">• Additional mathematical ideas from the focal points• Grade level connections• Financial literacy standards	What else could be explored within this context? What related ideas could be added to this context? What connections could be made to other content areas?	What Tier I differentiation may be needed to reach the student who is <ul style="list-style-type: none">• struggling,• learning English,• and/or advanced?
	Brainstorming	Main Concepts and/or Skills <i>Volume of a Cylinder 8(7)(A)</i>	Standards <ul style="list-style-type: none">• Process Standards 8(1)(A)-(G)• Describe the volume formula of a cylinder in terms of its base area and height 8(6)(A)• Model the relationship between cylinders and cones 8(6)(B)	<ul style="list-style-type: none">• <i>How much water does it take to fill the pan?</i>• <i>How can I compare water levels in the pan?</i>• <i>If I double a recipe, will my ingredients fit into this pan?</i>• <i>If the water level decreases when boiling, how much water evaporated?</i>	Struggling <ul style="list-style-type: none">• <i>Provide scaffolding tools (more given information)</i>• <i>Require fewer methods for problem solving</i>
	Related Concepts and/or Skills <i>Everyday life 8(1)(A)</i>	Learning English <ul style="list-style-type: none">• <i>Provide a word bank</i>• <i>Provide opportunities to speak</i>			
					Advanced <ul style="list-style-type: none">• <i>Extend problem to new situations</i>• <i>Open-ended applications</i>

Exploring the Project Share Gateway

TEKS	Type of Activities	Do you see evidence of the mathematical process standards? Justify your answer.	Notes

13

My Reflections:



Amplifying Instructional Tasks – Grade _____

		Considerations for Brainstorming			
		Consider the 2012 TEKS in the Original Task	Consider the Curriculum Focal Point	Consider the Context	Consider the Student
Guiding Questions	What main concepts and/or skills are involved in this task?	What else might be explored or applied? <ul style="list-style-type: none"> • Additional mathematical ideas from the focal points • Grade level connections • Financial literacy standards 	What else could be explored within this context? What related ideas could be added to this context? What connections could be made to other content areas?	What Tier I differentiation may be needed to reach the student who is <ul style="list-style-type: none"> • struggling, • learning English, • and/or advanced? 	
	What are related concepts and/or skills?				
Brainstorming	Main Concepts and/or Skills	Standards	Context	Struggling	
	Related Concepts and/or Skills			Learning English	
				Advanced	

Amplifying Instructional Task Worksheet – Grade _____

Original Task:

Amplified Instructional Task: