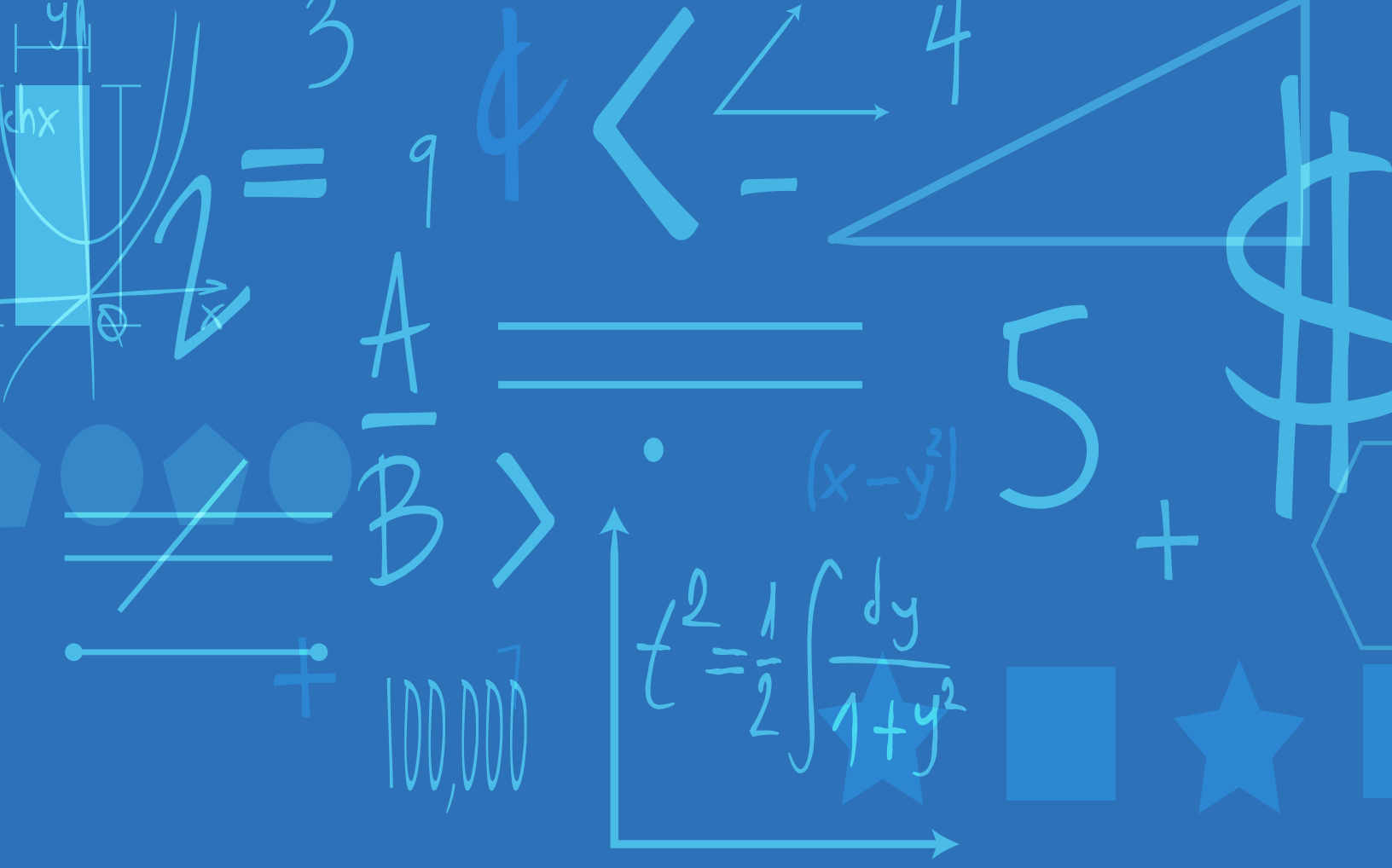

Introduction to the

Revised Mathematics TEKS

MATHEMATICAL PROCESS STANDARDS JOURNAL
KINDERGARTEN - GRADE 2

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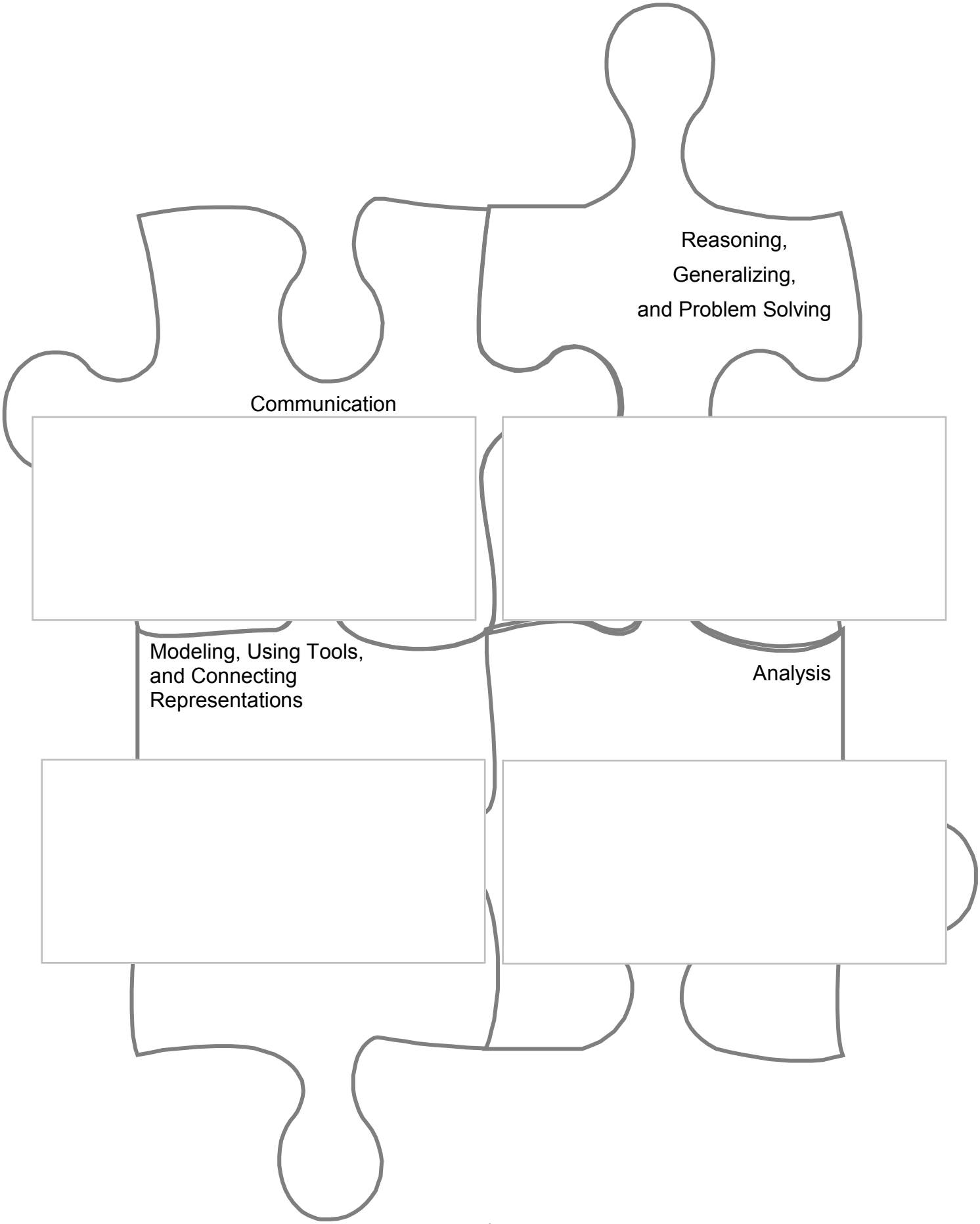
Exploring The Mathematical Process Standards



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Exploring The Mathematical Process Standards (continued)

Similarities	Differences

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

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Vocabulary Notes

ELPS	Cross-Disciplinary Instruction	Multiple Entry Points	Levels of Cognitive Demand
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 _____.	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 _____. **CCRS** 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.	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.	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.

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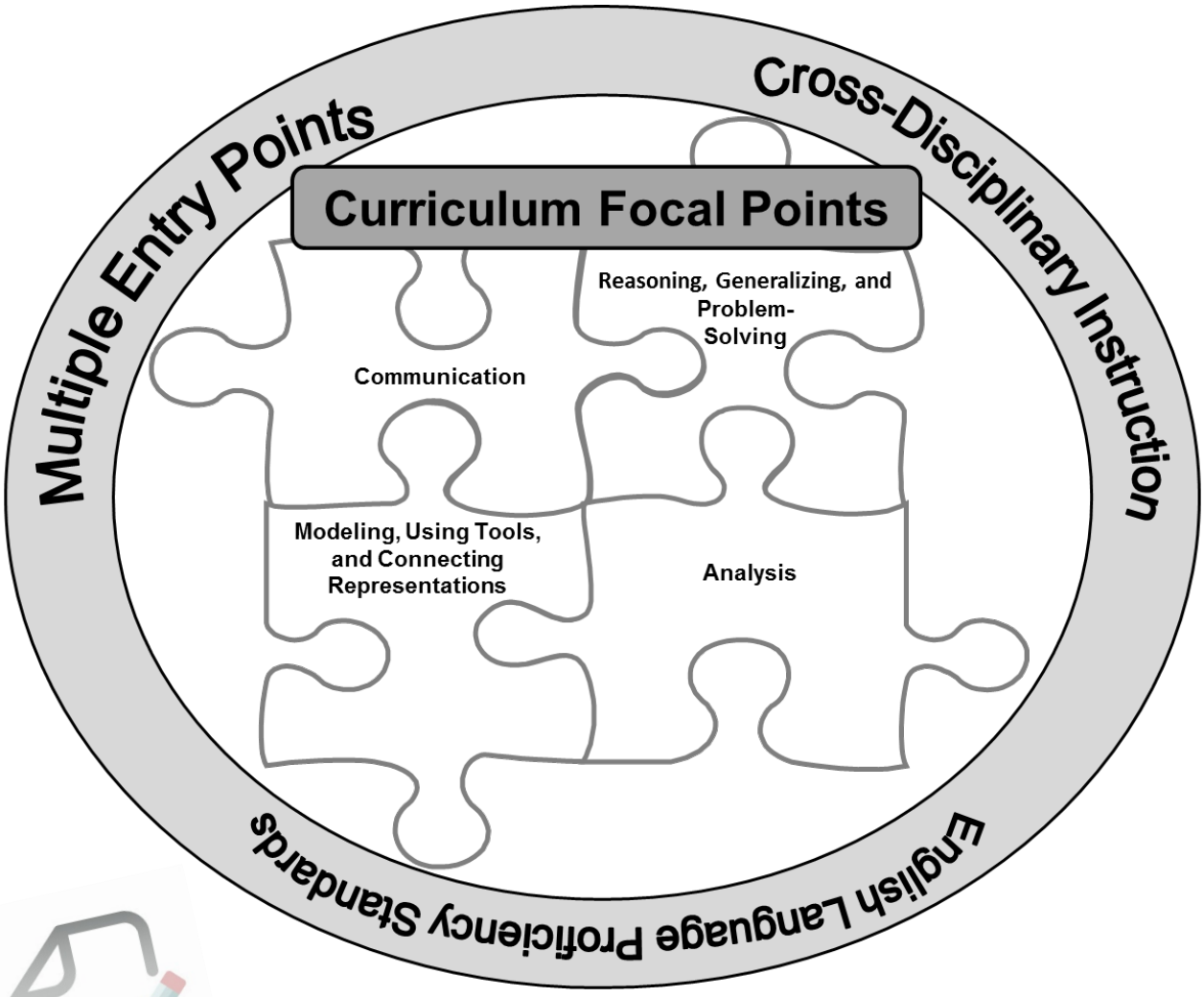
The Mathematical Process Standards – My Understanding



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

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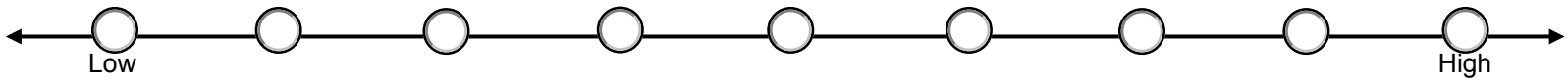
Examining Amplified Instructional Task 1

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:



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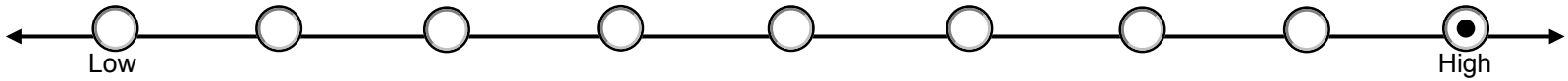
Examining Amplified Instructional Task 2

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:



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Amplifying Instructional Tasks Brainstorming – Kindergarten 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	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? • 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 • struggling, • learning English, • and/or advanced?
Brainstorming	**Main Concepts and/or Skills** *Use comparative language to describe two numbers up to 20 presented as written numerals K(2)(H)* **Related Concepts and/or Skills** *Compare sets of objects up to at least 20 in each set using comparative language K(2)(G)*	**Standards** • *Mathematical process standards K(1)(A)-(G)* • *Generate a number that is one more than or one less than another number up to at least 20 K(2)(F)* • *Compare sets of objects up to at least 20 in each set using comparative language K(2)(G)* • *Generate a set using concrete and pictorial models that represent a number that is more than, less than, and equal to a given number up to 20 K(2)(E)* • *Draw conclusions from real-objects and picture graphs K(8)(C)*	**Context** • *Comparing the number of each color of bears in a bag (red compared to blue)* • *Counting the number of students in each kindergarten classroom and make comparative statements* • *Collecting data and creating a real-object or picture graph, then make comparative statements about the data*	**Struggling** • *Use manipulatives* • *Provide counting strips when counting forward and backwards* **Learning English** • *Use sentence frames* • *Word cards* **Advanced** • *Determine a number between two given whole numbers*

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Amplifying Instructional Tasks Brainstorming – Grade 1 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	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? • 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 • struggling, • learning English, • and/or advanced?
Brainstorming	**Main Concepts and/or Skills** *Identify U.S. coins by value and describe the relationships among them 1(4)(A)* **Related Concepts and/or Skills** *Mathematics in everyday life 1(1)(A)*	**Standards** • *Mathematical process standards 1(1)(A)-(G)* • *Write a number with the cent symbol to describe the value of a coin 1(4)(B)* • *Use relationships to count by twos, fives, and tens to determine the value of a collection 1(4)(C)* • *Represent the comparison of two numbers to 100 using the symbols >,<, or = 1(2)(G)* • *Apply properties of operations to add and subtract two or three numbers 1(5)(G)* • *Define money earned as income 1(9)(D)*	**Context** • *Finding the total amount saved from allowance earned for chores* • *Counting/totaling money earned selling lemonade* • *Counting money to determine if there is enough to buy a candy bar* • *Determining which person has the most change and represent the situation using comparison symbols*	**Struggling** • *Provide a sorting mat* • *Provide hint cards* **Learning English** • *Use word cards* • *Use sentence frames* **Advanced** • *Use relationships between coins to create sets of coins with an equal value*

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Amplifying Instructional Tasks Brainstorming – Grade 2 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	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? • 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 • struggling, • learning English, • and/or advanced?
Brainstorming	**Main Concepts and/or Skills** *Solve one-step word problems with addition 2(4)(C)*	**Standards** • *Process standards 2(1)(A)-(G)* • *Add or subtract using mental strategies 2(4)(B)* • *Solve one-step and multi-step word problems with addition and subtraction 2(4)(C)* • *Generate and solve problem situations involving addition and subtraction 2(4)(D)* • *Represent and solve word problems where unknowns may be any one of the terms 2(7)(C)* • *Solve addition or subtraction problems from pictographs or bar graphs 2(10)(C)* • *Draw conclusions and make predictions from a graph 2(10)(D)*	• *How many students voted for their favorite flavor?* • *Create a bar graph to represent the information.* • *Compare quantities.* • *Draw conclusions from the graph.*	**Struggling** • *Provide scaffolding tools (graph).* • *Provide checkpoints on multi-step problems.*
	Related Concepts and/or Skills *Mathematics in everyday life 2(1)(A)*			**Learning English** • *Provide sentence stems and frames.* • *Provide opportunities to speak.*
				Advanced • *Extend problem to include more complex steps.* • *Require students to analyze given information.*

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Exploring the Project Share Gateway

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

My Reflections:

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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 are related concepts and/or skills?	What else might be explored or applied? • 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 • struggling, • learning English, • and/or advanced?
Brainstorming	**Main Concepts and/or Skills**	**Standards**	**Context**	**Struggling**
	Related Concepts and/or Skills			**Learning English**
				Advanced

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Amplifying Instructional Task Worksheet – Grade ____

Original Task:

Amplified Instructional Task:

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