Third Grade Mathematics

The purpose of this document is to clarify what students should know and be able to do in Quarter 1.

The Competencies listed in the table below are developed from the Texas Essential Knowledge and Skills (TEKS) for that grade level. The chart defines which quarter the Competency is reported (Q1 = Grading Period 1, Q2 = Grading Period 2, etc.).
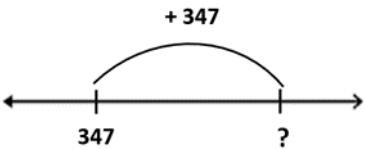
Teachers will report on the competencies using the Grading Progressions which are comprised of four proficiency levels (developing (DV), progressing (PG), and proficient (PF)) and defines the knowledge and skills students will master on their pathway to proficiency. The Grading Progressions for each Competency are below the yearlong outline of the Competencies. The Grading Progressions define what a student knows and is able to do related to that competency at the end of a unit or quarter. To see what success on each individual competency looks like in a particular unit, please see the Public Overview document for the course.

Students who receive a mark of "Proficient" meet the grade level expectation for that Competency.

TEKS	Competencies	Q 1	Q 2	Q 3	Q 4
3.1B, 3.1E, 3.1G	**C1— Problem Solving** The student analyzes word problems, utilizes a strategy, creates multiple representations, communicates mathematical thinking (oral and written), and determines an answer or solution.	X	X	X	X
3.1A, 3.1C, 3.1D, 3.1F, **3.2D**	**C2— Numeration** The student understands how to represent and order whole numbers within real-world context.	X			
3.1A, 3.1C, 3.1D, 3.1F, **3.5A, 3.5B, 3.4A, 3.4G, 3.4K**	**C3— Operations** The student develops concepts of expressions and equations and uses strategies for **whole number** computations within real-world context in order to solve problems.	X	X	X	
3.1A, 3.1C, 3.1D, 3.1F, **3.3D, 3.3H**, 3.6E	**C4— Fractions** The student understands how to represent and explain fractional units within real-world context.			X	X
3.1A, 3.1C, 3.1D, 3.1F, 3.6A	**C5— Geometry** The student analyzes attributes of two-dimensional shapes and three-dimensional solids within real-world context to develop generalizations about their properties.		X		
3.1A, 3.1C, 3.1D, 3.1F, **3.7B, 3.6C**	**C6— Measurement** The student selects appropriate units, strategies, and tools within real-world context to solve problems involving customary and metric measurements.		X	X	
3.1A, 3.1C, 3.1D, 3.1F, **3.8B**	**C7—Data Analysis** The student solves problems by collecting, organizing, displaying, and interpreting data within real-world context.				X

Learning Progression for Competency 1: Problem Solving

The student analyzes word problems by determining the important information, utilizing a strategy, creating multiple representations, communicating mathematical thinking (oral and written), and determining an answer.

Developing	Progressing	Proficient	Advanced

Identify information needed to solve the problem
 	
Represent the **values** of the problem using objects or pictures of objects
	Create and use **teacher-selected** representation to organize or record and communicate mathematical thinking such as:
	• number sentence
	• various types of manipulatives
	• various types of pictorial representations
	• graphs
	
	Use **teacher-selected strategies** to solve a problem such as:
	• count objects or picture of objects
	• number paths
	• number lines
	• ten frames
	• part- whole map (strip-diagram)
	• fact strategies
	• graphs
	• estimation
	• one-to-one correspondence for comparison
		Create and use **self-selected multiple** representations to organize or record and communicate mathematical thinking such as:
		• number sentence
		• various types of manipulatives
		• various types of pictorial representations
		• graphs
		• explaining the process to solve
		
		Use **self-selected strategies** to solve a problem such as:
		• count objects or picture of objects
		• number lines
		• strip diagrams
		• fact strategies
		• computations using non-standard algorithm
		   ○ place value strategy
		   ○ number sense strategy
		• graphs
			Evaluate the problem-solving process or justify the efficiency of using a specific strategy (e.g. When comparing numbers, it is faster to look at the value of each digit rather than building the numbers using base ten models.)
			
			Explain connections between representations and the context of the problem situation
			
			Sentence Stem: The ___ (explain representation)___ because the problem said ___(evidence)___ and that means ___(reasoning)___.
			
			(e.g. I drew a number line jumping to the right which makes the number larger because the problem said Jack and Jill had 347 each which means I will be joining these two numbers.
			
			+ 347
			
			347 ?

Explain how the objects or pictures of objects represent a number	Explain the process used to solve the problem	Justify an answer by comparing it to a predicted answer	

Learning Progression for Competency 2: Numeration
The student understands how to represent and compare whole numbers within real-world context.

Developing	Progressing	Proficient	Advanced
Represent and describe the value of a digit using place value models • place value models • expanded form Decompose numbers into ten-thousands, thousands, hundreds, tens, and ones using place value models Identify midpoints on a number line between consecutive multiples of 10, 100, 1,000 or 10,000	Compare numbers based on place value using: • place value models • expanded form Explain how to determine if a number is larger or smaller than another number using place value Determine the appropriate symbol to represent a comparison Represent numbers on an open number line between consecutive multiples of 10, 100, 1,000, or 10,000	Represent the inverse of a comparison statement and explain why it is true Order numbers based on place value using: • place value models • expanded form Explain how to order numbers using place value	Generate and solve real world problems involving comparing and ordering numbers Order a set of numbers and generate a number that falls between a specific set of numbers within the sequence

Learning Progression for Competency 3: Operations

The student develops concepts of expressions and equations and uses strategies for **whole number** computations within real-world context in order to solve problems.

(Addition and Subtraction – Numbers within 1,000)

Developing	Progressing	Proficient	Advanced
Composes and decomposes numbers as a sum of so many ten-thousands, so many thousands, so many hundreds, so many tens, and so many ones	Represents the actions for one-step problems involving addition and subtraction using: • base 10 representations • strip diagrams • number lines • equations	Represents the actions for two-step problems involving addition and subtraction using: • base 10 representations • strip diagrams • number lines • equations	Creates problem situations from one and two step pictorial models, number lines, or equations involving addition and subtraction Justifies the efficiency/effectiveness of the chosen strategy or representation
Rounds to the nearest 10 or 100	Estimate solutions for problems with rounding to the nearest 10 or 100 Solves one-step problems involving addition and subtraction using various strategies such as: • base 10 representations • place value • composing and decomposing • compensation • fact strategies	Estimate solutions for problems using compatible numbers Solves two-step problems involving addition and subtraction using various strategies such as: • base 10 representations • place value • composing and decomposing • compensation • fact strategies Justify an answer by comparing it to an estimated answer	