Kindergarten Mathematics

The purpose of this document is to clarify what students should know and be able to do in Quarter 3.

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
K.1B, K.1E, K.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**
K.1A, K.1C, K.1D, K.1F, **K.2B, K.2H, K.2I, K.2A**	**C2— Numeration** The student understands how to represent and compare numbers within real-world context.	**X**	**X**	**X**	
K.1A, K.1C, K.1D, K.1F **K.3B, K.2I**	**C3— Operations** The student develops an understanding of addition and subtraction within real-world context in order to solve problems.			**X**	**X**
K.1A, K.1C, K.1D, K.1F **K.6E**	**C4— Geometry** The student analyzes attributes of two-dimensional shapes and three-dimensional solids within real-world context to develop generalizations about their properties.		**X**		
K.1A, K.1C, K.1D, K.1F **K.7B**	**C5— Measurement** The student compares measurable attributes within real-world context.				**X**
K.1A, K.1C, K.1D, K.1F **K.8A**	**C6—Data Analysis** The student collects and organizes data to make it useful for interpreting information within real-world context.			**X**	**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 (may be oral), and determining an answer.

Developing	Progressing	Proficient
Identify information needed to solve the problem Represent the **values** of the problem using objects or pictures of objects	Create and use **teacher-selected** representations 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 comparisons	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 path • number lines • ten frames • part- whole map (strip diagram) • fact strategies • graphs • estimation • one-to-one correspondence for comparisons
Explain how the objects or pictures of objects represent a number	Explain the process used to solve the problems	Justify an answer by comparing it to a predicted answer

Learning Progression for Competency 2: Numeration

The student understands how to represent and compare numbers within real-world context.

Represent and Compare - Numbers 0-20 **Compose and Decompose - Numbers 0-10**

Developing	Progressing	Proficient
Count a set of objects and describe the amount as the last number counted Count forward and backward with and without objects Identify if a set of objects is more or less than another set without counting when there is an obvious difference. (e.g. a picture of 3 cookies or 20 cookies) Join two groups of objects and identify their combined value	Represent a number using objects or pictures of objects Count forward starting with a number other than 1 Identify which set of objects has more or less, and describe the comparison using the words "more/greater, less/fewer, and same/equal" Generate a set of objects that is more than, less than, and equal to a given number or set of objects Compose numbers using: • objects • pictures Decompose numbers using: • objects • pictures	Represent a number using tools such as: • ten frames • number paths • other counting mats Write a numeral when given a set of objects or pictures Compare two numbers using objects or pictures and describe the comparison using comparative language, "more/greater, less/fewer, and same/equal," using: • sets of objects • pictorial representations • numerals Solve problems involving composing and decomposing numbers in context using: • ten frames • number paths • other counting mats Explain the process of decomposing and composing numbers in context of a real-world situation

Learning Progression for Competency 3: Operations
The student develops an understanding of addition and subtraction within real-world context in order to solve problems.

Add and Subtract - Numbers within 0-10

Developing	Progressing	Proficient
Compose and decompose numbers up to 10 with objects and pictures • ten frames • number paths • story mats Identify the action of a word problem as joining or separating	Act out a word problem involving addition or subtraction to solve using • hand gestures and objects • story mats and objects • drawing pictures that represent the context (e.g. Using stick figures to represent a story problem about children)	Model the act of joining and solve the word problem using: • story mats • ten frames • number paths • number bonds • part-whole models Model the act of separating and solve the word problem using: • story mats • ten frames • number paths • number bonds • part-whole models Explain strategies used to solve problems

Learning Progression for Competency 6: Data Analysis
The student collects and organizes data to make it useful for interpreting information within real-world context.

Data Analysis - Numbers within 0-10

Developing	Progressing	Proficient
Sort objects into two or three categories Sort data into two or three categories (when given data) Describe the information when given a real-object or picture graph (e.g. Five dogs at the dog park were brown.) Describe the purpose of a real-object graph and a picture graph	Begin a data collection process by asking a question (e.g. What types of pets do the students in my classroom have at home?) Sort self-collected data into two or three categories Describe similarities and differences to justify sorting or categories	Create a real object or picture graph from self-collected data • horizontal • vertical Explain how to create a graph with data that has been sorted Draw conclusions from real-object or picture graph such as: • identify the category with the most or least number of items • compare different categories of data using words like more than, fewer than, and equal to • solve addition and subtraction problems related to the graph