First Grade Mathematics

The purpose of this document is to clarify what students should know and be able to do in Quarter 2.

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 three 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.

Competencies	Q 1	Q 2	Q 3	Q 4
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**
C2 — Numeration The student understands how to represent and compare numbers within real-world context.	**X**	**X**	**X**	
C3 — Operations The student develops an understanding of addition and subtraction within real-world context in order to solve problems.		**X**		**X**
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**	**X**	
C5 — Measurement The student selects and uses units to describe length and time within real-world context.				**X**
C6 — Data Analysis The student organizes data to make it useful for interpreting information and solving problems 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 (oral and written), 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 a **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 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 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 numbers within real-world context.

Compose and Decompose – Numbers up to 99; Compare and Order – Numbers up to 99

Developing	Progressing	Proficient
Write numbers in standard form when given • word form • models Represent numbers using objects and pictures Bundle objects such as craft sticks or linking cubes to count by 10s Generate a number that is more than or less than a given number Describe the value of each digit in a number	Compose numbers from place value models Decompose numbers using objects, pictures, and numbers Use place value strategies to determine a number that is 10 more and 10 less than a given number Describe comparison using comparative language based on place value using: • linking cubes/craft sticks • tens and ones Determine the appropriate symbol to represent a comparison	Decompose numbers in a variety of ways using objects. Decompose numbers in a variety of ways using pictures. Decompose numbers in a variety of ways using numbers. Represent numbers using expanded form. Explain the connection between expanded form, base ten representations, and place value Represent the inverse of a comparison statement and explain why it is true Order numbers based on place value using: • linking cubes/craft sticks • open number lines Explain how to order numbers using place value

Learning Progression for Competency 3: Operations

The student develops an understanding of addition and subtraction within real-world context in order to solve problems.

Compose and Decompose – Numbers up to 10/Add and Subtract – Numbers within 20

Developing	Progressing	Proficient
Use two addends to compose a number • with concrete objects • without concrete objects Decompose a number • with concrete • without concrete objects Determines the actions of the word problem • joining • separating • comparing sets Explain how the equal sign represents a relationship of equality	Use more than two addends to compose a number • with concrete objects • without concrete objects Represent **results unknown** word problems involving joining and separating using: • objects • pictorial representations Solve word problems with **results unknown** involving joining and separating using: • objects • pictorial representations • fact strategies (e.g. making 10, doubles, compensation)	Represent word problems involving **joining and separating** where **unknowns may be any one of the unknown terms** using: • objects • pictorial representations • number sentences Solve word problems involving **joining and separating** where **unknowns may be any one of the unknown terms** using: • objects • pictorial representations • fact strategies (e.g. making 10, doubles, compensation) Explain the strategies used to solve problems using: • spoken words • objects • pictorial models • number sentences Generate and solve problem situations when given a number sentence

Learning Progression for Competency 4: Geometry

The student analyzes attributes of two-dimensional shapes and three-dimensional solids within real-world context to develop generalizations about their properties.

Developing	Progressing	Proficient

Identify two-dimensional shapes as: • circles • triangles • rectangles • squares (special rectangles) • rhombus • hexagon Describe the attributes of two-dimensional shapes with language such as number of sides and vertices Build or draw two-dimensional shapes when given attributes	Distinguish between attributes that define and do not define a two-dimensional shape Compose two-dimensional shapes by joining two, three, or four figures to produce a target shape Classify and sort regular and irregular two-dimensional shapes based on their attributes regardless of how they are turned or their size Explain how shapes were classified or sorted	Identify three-dimensional solids found in the real-world • cylinders • cones • spheres • cubes • rectangular prisms • triangular prisms Describe the attributes of two-dimensional and three-dimensional figures including two-dimensional components such as: • shape of faces • number of faces • shape of base • number of edges • number of vertices Distinguish between attributes that define and do not define a three-dimensional figure