3rd Grade Math

The purpose of this document is to clarify what students should know and be able to do each grading period.

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 Learning Progressions which are comprised of four proficiency levels (developing (DV), progressing (PG), proficient (PG) and advanced (AV)) and defines the knowledge and skills students will master on their pathway to proficiency. The Learning Progressions for each Competency are below the yearlong outline of the Competencies. Following the Learning Progression are the Competency Success Criteria which define what a student knows and is able to do related to that competency at the end of a unit or quarter.

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

Competency	Q 1	Q 2	Q 3	Q 4
C1 – Problem Solving The student analyzes given information, create a plan, solve, and determine reasonableness.	X	X	X	X
C2 – Addition and Subtraction The student represents and solves addition and subtraction problems.	X			X
C3 – Summarizing and Analyzing Data The student organizes data in graphs and uses graphs to write and solve problems.		X	X	
C4 – Multiplication and Division The student represents and solves multiplication division problems within 100.	X	X		X
C5 – Geometry – Classify and Sort The student classifies and sorts 2D shapes and 3D figures based on attributes.		X		
C6 – Representing and Comparing Fractions The student represents equivalent fractions and compares fractions with the same numerator or denominator.			X	
C7 – Measurement – Area and Perimeter The student determines the area of a rectangle and the perimeter of a polygon.			X	X

Learning Progression for Competency 1: Problem Solving

The student analyzes given information, create a plan, solve, and determine reasonableness.

Developing	Progressing	Proficient	Advanced
Does not show understanding of the problem	Selects some important facts from the problem and shows understanding of some of the problem	Selects the important facts from the problem and demonstrates understanding	Selects the important facts from the problem and demonstrates understanding
Selects an inappropriate strategy for this problem, and the solution is incorrect	Selects a strategy, but does not use an orderly plan to solve the problem	Selects a strategy and uses an orderly plan to solve the problem	Uses multiple strategies and an orderly plan to solve the problem
Shows little to no work, or the work had lots of mistakes	Makes careless mistakes in the math work, or does not finish because the plan does not work	Explains the strategy selection and the procedure	Explains the connection between the different strategies and why they can be used to solve the problem
Has very little or no explanation of what he/she did	Partially explains the strategy selection and the procedure	Explains how the solution is reasonable	Shows how the solution is reasonable
Uses wrong or little math vocabulary	Uses some accurate math vocabulary	Uses accurate math vocabulary	Uses accurate math vocabulary

Success Criteria for Proficient in Problem Solving:

The student can…
- select the important facts from the problem
- determine what to do
- select a strategy to solve the problem
- use an orderly plan to solve the problem
- explain their strategy selection
- explain their procedure in solving the problem
- show the solution is reasonable
- use accurate math vocabulary

Learning Progression for Competency 2: Addition and Subtraction

The student represents and solves addition and subtraction problems.

Developing	Progressing	Proficient	Advanced
Represents one- and two-step mathematical problems involving addition and subtraction of whole numbers	*Meets all Developing criteria and...* Represents one-step word problems involving addition and subtraction of whole numbers using concrete objects and pictorial models Solves one-step problems involving addition and subtraction using strategies based on place value and properties of operations	*Meets all Progressing criteria and...* Represents one- and two-step word problems involving addition and subtraction of whole numbers Solves one-step and two-step problems involving addition and subtraction using strategies based on place value and properties of operations Estimates solutions to addition and subtraction problems by rounding numbers to the nearest 10 or 100	*Meets all Proficient criteria and ...* Explains the connection between different models and equations that represent one- and two-step addition and subtraction problems of whole numbers Explains why their solution is reasonable

Success Criteria for Proficient in Addition and Subtraction:

The student can...

- represent one- and two-step problems involving addition and subtraction of whole numbers to 1,000 (mathematical and real-world).
    - pictorial models
    - number lines
    - equations
- solve one- and two-step problems involving addition and subtraction within 1,000.
    - place value
    - properties of operations
    - relationship between addition and subtraction
- estimate solutions to addition and subtraction problems by rounding numbers to the nearest 10 or 100.

Learning Progression for Competency 4: Multiplication and Division
The student represents and solves multiplication division problems within 100.

Developing	Progressing	Proficient	Advanced
Represents multiplication facts	*Meets all Developing criteria and…*	*Meets all Progressing criteria and…*	*Meets all Proficient criteria and…*
Multiplies up to 10 by 10	Represents one-step multiplication problems	Represents one and two-step multiplication problems	Makes numerical predictions using multiplication rules in tables
Divides up to 10 by 10	Solves one-step multiplication problems	Solves two-step multiplication problems	Explains their choice of operation
	Represents one-step division problems	Relates multiplication to real world application using number pairs	Makes numerical predictions using divisibility rules in tables
	Solves one-step division problems	Represents two-step division problems	
		Solves two-step division problems	

Success Criteria for Proficient in Multiplication and Division:

The student can…
- represent multiplication facts.
    - repeated addition
    - equal-sized groups
    - arrays
    - area models
    - equal jumps on a number line
    - skip counting
- multiply up to 10 by 10.
    - standard algorithm
    - mental math
    - partial products
    - commutative, associative, and distributive properties

- o determine total number of objects using equally sized groups
    - combining groups
    - arranging in an array
  - o find unknown number for any missing term
- represent one- and two-step multiplication problems within 100.
  - o arrays
  - o strip diagrams
  - o equations
- solve one- and two-step multiplication problems.
  - o objects
  - o pictorial models
    - arrays
    - area models
    - equal groups
    - strip diagrams
  - o properties of operations
  - o equations
  - o word problems
- Represent real-world relationships using number pairs.
  - o table
  - o verbal description
- explain multiplication using verbal descriptions.
- divide up to 10 by 10.
  - o determine the number of objects in each group when a set of objects is divided into equal shares or a set of objects is shared equally
  - o determine if a number is even or odd using divisibility rules
  - o determine a quotient using the relationship between multiplication and division
  - o find unknown number for any missing term
- represent one- and two-step division problems within 100.
  - o arrays
  - o strip diagrams
  - o equations
- solve one- and two-step division problems.
  - o objects

- pictorial models
    - arrays
    - area models
    - equal groups
    - strip diagrams
- properties of operations
- equations
- word problems
- explain division using mathematical language.