

Third 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.).

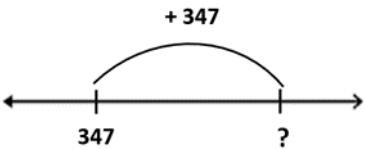
Teachers will report on the competencies using the Grading Progressions which are comprised of four proficiency levels (developing (DV), progressing (PG), and proficient (PF)) and defines the knowledge and skills students will master on their pathway to proficiency. The Grading Progressions for each 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
<p>Identify information needed to solve the problem</p> <p>Represent the values of the problem using objects or pictures of objects</p> <p>Explain how the objects or pictures of objects represent a number</p>	<p>Create and use teacher-selected representation to organize or record and communicate mathematical thinking such as:</p> <ul style="list-style-type: none"> • number sentence • various types of manipulatives • various types of pictorial representations • graphs <p>Use teacher-selected strategies to solve a problem such as:</p> <ul style="list-style-type: none"> • 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 <p>Explain the process used to solve the problem</p>	<p>Create and use self-selected multiple representations to organize or record and communicate mathematical thinking such as:</p> <ul style="list-style-type: none"> • number sentence • various types of manipulatives • various types of pictorial representations • graphs • explaining the process to solve <p>Use self-selected strategies to solve a problem such as:</p> <ul style="list-style-type: none"> • count objects or picture of objects • number lines • strip diagrams • fact strategies • computations using non-standard algorithm <ul style="list-style-type: none"> ○ place value strategy ○ number sense strategy • graphs <p>Justify an answer by comparing it to a predicted answer</p>	<p>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.)</p> <p>Explain connections between representations and the context of the problem situation</p> <p>Sentence Stem: The <u> </u> (explain representation) <u> </u> because the problem said <u> </u> (evidence) <u> </u> and that means <u> </u> (reasoning) <u> </u>.</p> <p>(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.</p> 

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.

(Multiplication and Division – Products within 100)

Developing	Progressing	Proficient	Advanced
<p>Represent and solve for a product using:</p> <ul style="list-style-type: none"> • equal groups of objects • equal groups of pictures • equal jumps on a number line • repeated addition • skip counting • arrays • area models • comparison (e.g. 3 x 24 is 3 times as much as 24) • equation <p>Represent and solve for a quotient using:</p> <ul style="list-style-type: none"> • equal groups of objects and pictures <ul style="list-style-type: none"> ○ group size unknown ○ number of groups unknown • equal jumps on a number line • relationship between multiplication and division • equation 	<p>Determine the unknown whole number in a multiplication or division equation when the unknown is either a missing factor or product</p> <p>Represent one-step problems involving multiplication or division using:</p> <ul style="list-style-type: none"> • base 10 representations • strip diagrams • number lines • equations <p>Solve one-step multiplication or division problems within using:</p> <ul style="list-style-type: none"> • pictorial models (number line, strip diagram, arrays, or area models) • recall of facts • fact strategies 	<p>Represent one-step problems involving multiplication and division using:</p> <ul style="list-style-type: none"> • base 10 representations • strip diagrams • number lines • equations <p>Solve one-step multiplication and division problems within using:</p> <ul style="list-style-type: none"> • pictorial models (number line, strip diagram, arrays, or area models) • recall of facts • fact strategies <p>Estimate solutions for problems using compatible numbers</p> <p>Justify an answer by comparing it to an estimated answer</p>	<p>Create problem situations from one and two step pictorial models, number lines, or equations involving addition and subtraction</p> <p>Justify the efficiency/effectiveness of the chosen strategy or representation</p>

Learning Progression for Competency 5: 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	Advanced
<p>Classify and sort two-dimensional shapes using formal geometric language</p> <ul style="list-style-type: none"> • number of sides • number of vertices <p>Justify the classification using formal geometric language</p> <ul style="list-style-type: none"> • number of sides • number of vertices 	<p>Use attributes to describe various quadrilaterals</p> <ul style="list-style-type: none"> • rhombus • parallelogram • trapezoid • rectangle • square • other irregular quadrilaterals <p>Explain similarities and differences of different quadrilateral characteristics</p> <ul style="list-style-type: none"> • number of sides • number of vertices • length of sides • parallel lines • perpendicular lines • right angles 	<p>Classify and sort three-dimensional figures using formal geometric language (e.g. cones, cylinders, spheres, triangular prisms, rectangular prism, and cubes)</p> <ul style="list-style-type: none"> • number of edges • number of vertices • number of faces • types of faces (two-dimensional shapes) <p>Justify the classification using formal geometric language</p>	<p>Identify patterns found when comparing various three-dimensional prisms (e.g. What is the pattern found when comparing amounts of edges or vertices for triangular, rectangular, and pentagonal prisms or what is the relationship between the face of prism and number of edges and vertices?)</p>

Learning Progression for Competency 6: Measurement

The student selects appropriate units, strategies, and tools within real-world context to solve problems involving customary and metric measurements.

Time

Developing	Progressing	Proficient	Advanced
Determine the solutions problems involving addition and subtraction of time intervals using hours	Determine the solutions to problems involving addition and subtraction of time intervals using hours and half-hours	Determine the solutions to problems involving addition and subtraction of time intervals in minutes <ul style="list-style-type: none"> • determine the time an event ends when given a start time and duration • determine the time an event began when given the end time and the duration • determine the total duration of time from multiple events 	Create real-world situations that require solving problems for different types of measurement: <ul style="list-style-type: none"> • elapsed time • perimeter • area • volume • weight