

5th 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.

Competencies	GP1	GP2	GP3	GP4
C1 – Problem Solving The student can identify important information, create a plan, solve and check two-step word problems.	X	X	X	X
C2 – Add and Subtract Whole Number Computation The student can use strategies and place value to add and subtract whole numbers fluently.	X			
C3 – Multiply and Divide Whole Number Computation The student can multiply three digit by two digit whole numbers and can divide four digit by two digit whole numbers using the standard algorithm.	X			
C4 – Decimal Place Value The student can use decimal place value to round, compare and order decimals to the thousandths place value.	X			
C5 – Add and Subtract Decimal Computation The student can add and subtract whole numbers and decimals to the thousandths place fluently.		X		X
C6 – Multiply and Divide Decimal Computation The student can multiply and divide decimals using models, the algorithm and check with estimation.		X		X
C7-Add and Subtract Fraction Computation The student can represent and solve problems that include adding and subtracting fractions with unequal denominators.		X	X	X
C8 – Multiply and Divide Fractions Computation The student represents and solves multiplication of fractions by whole numbers, divides a unit fraction by a whole and a whole by a unit fraction.			X	X
C9 – Graphing The student solves one- and two-step problems using data from a frequency table, dot plot, bar graph, stem-and-leaf plot, or scatterplot.		X		
C10 – Measurement The student represents and solves for perimeter, area, and volume and converts customary/ metric measurements when necessary.			X	

Learning Progression for Competency 1: Problem Solving

The students identify important information, create a plan, solve and check two-step word problems.

Developing	Progressing	Proficient	Advanced
<p>Represents one-step word problems using a strategy</p> <p>Identifies information</p> <p>Chooses an operation for one step word problems</p> <p>Chooses incorrect operation for two step word problems</p>	<p>Represents one-step word problems using a strategy OR model:</p> <ul style="list-style-type: none"> • strip diagram • area model • manipulatives <p>Identifies important information</p> <p>Formulates a plan for one-step word problems</p> <p>Solves one-step word problems correctly</p> <p>Sets up two step word problems correctly but answers incorrectly</p>	<p>Represents two-step word problems using a strategy AND model using:</p> <ul style="list-style-type: none"> • strip diagram • area model • manipulatives • equations <p>Identifies and applies important information</p> <p>Formulates a plan for two-step word problems</p> <p>Solves two-step word problems</p> <p>Checks for reasonableness or estimation</p> <p>Explains steps using correct mathematical language</p>	<p>Represents multi-step word problems using strategies and models</p> <p>Identifies and applies important information</p> <p>Formulates a plan for multi-step word problems</p> <p>Solves multi-step word problems correctly</p> <p>Checks for reasonableness or estimation</p> <p>Creates real world problems</p>

Success Criteria for Proficient in Problem Solving:

The student can:

- use models to represent problem.
 - strip diagram
 - area models
 - manipulatives
 - equations
- apply important information.
- create a plan to solve a problem.
- solve the first step of a two-step word problem correctly.
- solve two step word problems correctly.
- check answers for reasonableness.
- check using inverse operation.
- write answers as a solution statement and compare answers to the question.
- explain steps with reasoning.

Learning Progression for Competency 2: Add and Subtract Whole Number Computation

The student uses strategies and place value to add and subtract whole numbers fluently.

Developing	Progressing	Proficient	Advanced
<p>Uses concrete objects and pictorial models to add and subtract</p> <p>Regroups to add whole numbers fluently to the hundred thousands</p> <p>Regroups to subtract whole numbers fluently to the hundred thousands</p>	<p>Regroups to add whole numbers fluently to the millions</p> <p>Regroups to subtract whole numbers fluently to the hundred thousands</p> <p>Estimates using compatible numbers or front end estimation</p>	<p>Uses regrouping to add whole numbers</p> <p>Regroups to subtract whole numbers</p> <p>Uses tools such as manipulatives number lines, pictures, and models</p> <p>Estimates using compatible numbers or front-end estimation</p> <p>Explains and justifies their steps using mathematical language</p>	<p>Meets all Proficient criteria and...</p> <p>Creates problems that apply addition and subtraction to real world situations</p>

Success Criteria for Proficient in Add and Subtract Whole Number Computation:

The student can:

- use models to represent problems.
 - manipulatives
 - models
 - number lines
 - pictures
- regroup when adding.
- regroup when subtracting.
- estimate sums and differences.
- check for reasonableness using estimation.
- explain steps with reasoning.

Learning Progression for Competency 3: Multiply and Divide Whole Number Computation The student multiplies three digit by two digit whole numbers and divide four digit by two digit whole numbers using the standard algorithm.

Developing	Progressing	Proficient	Advanced
<p>Uses concrete objects and pictorial models to multiply and divide basic math facts</p> <ul style="list-style-type: none"> • manipulatives • number lines • pictures <p>Multiplies basic math facts up to two digit by one digit whole numbers</p> <p>Divides basic math facts up to two digit by one digit whole numbers</p>	<p>Uses concrete objects and pictorial models to multiply and divide with one digit</p> <ul style="list-style-type: none"> • manipulatives • number lines • pictures <p>Multiplies three digit by one digit whole numbers using models OR strategies</p> <p>Divides four digit by one digit whole numbers using models OR strategies</p>	<p>Uses concrete objects and pictorial models to multiply and divide basic with two digits</p> <ul style="list-style-type: none"> • manipulatives • number lines • pictures <p>Multiplies three digit by two digit whole numbers using models AND the standard algorithm</p> <p>Divides four digit by two digit whole numbers using models AND the standard algorithm</p> <p>Explains and justifies their steps using mathematical language</p>	<p>Meets all Proficient criteria and...</p> <p>Creates problems that apply multiplication and division to real world situations</p>

Success Criteria for Proficient in Multiply and Divide Whole Number Computation:

The student can...

- use models to multiply .
 - manipulatives
 - number line
 - pictorial models
- multiply three digit by one digit.
- multiply three digit by two digit.
- regroup when multiplying.
- add a zero in empty place values when multiplying by two-digit numbers.
- use models to divide.
 - manipulatives
 - number line
 - pictorial models

- divide four digits by one digit.
- divide four digits by two digits.
- add a zero to the quotient when necessary.
- use compatible numbers to estimate when solving for the quotient.
- use correct place values when dividing.
- explain steps with reasoning.

Learning Progression for Competency 4: Decimal Place Value

The student uses decimal place value to round, compare and order decimals to the thousandths place value.

Developing	Progressing	Proficient	Advanced
Identifies place value Represents a decimal value with manipulatives and models Rounds to the tenths or hundredths place value	Represents decimals using standard form, expanded notation OR models Compares two decimals to the thousandths place value using $<$, $>$ or $=$ signs <p style="text-align: center;">OR</p> Orders decimals to the thousandths place value Rounds to the tenths or hundredths place value	Represents decimals using standard form, expanded notation and models. Compares two decimals to the thousandths place value using $<$, $>$ or $=$ signs <p style="text-align: center;">AND</p> Orders decimals to the thousandths place value Rounds to the tenths or hundredths place value.	Meets all Proficient criteria and... Creates problems that apply comparing and ordering decimals to real world situations
<p>Success Criteria for Proficient in Decimal Place Value:</p> <p>The student can:</p> <ul style="list-style-type: none"> • identify decimal place values. • represent a decimal using models. <ul style="list-style-type: none"> ○ Base 10 blocks ○ Area model • represent decimal place values using expanded notation. • compare decimals using symbols $<$, $>$ or $=$ signs. • order decimals based on place value. • round decimals to the tenths and hundredths place value. 			