# Tennessee Mathematics Standards 2009-2010 Implementation 

Grade Two Mathematics

## Standard 1 - Mathematical Processes

## Grade Level Expectations:

GLE 0206.1.1 Use mathematical language, symbols, and definitions while developing mathematical reasoning.
GLE 0206.1.2 Apply and adapt a variety of appropriate strategies to problem solving, including estimation, and reasonableness of the solution.
GLE 0206.1.3 Develop independent reasoning to communicate mathematical ideas and derive algorithms and/or formulas.
GLE 0206.1.4 Move flexibly between concrete and abstract representations of mathematical ideas in order to solve problems, model mathematical ideas, and communicate solution strategies.
GLE 0206.1.5 Use mathematical ideas and processes in different settings to formulate patterns, analyze graphs, set up and solve problems and interpret solutions.
GLE 0206.1.6 Read and interpret the language of mathematics and use written/oral communication to express mathematical ideas precisely.
GLE 0206.1.7 Recognize the historical development of mathematics, mathematics in context, and the connections between mathematics and the real world.
GLE 0206.1.8 Use technologies/manipulatives appropriately to develop understanding of mathematical algorithms, to facilitate problem solving, and to create accurate and reliable models of mathematical concepts.

## Checks for Understanding (Formative/Summative Assessment):

$\checkmark \quad 0206.1 .1$ Read and write time up to five-minute intervals.
$\checkmark \quad 0206.1 .2$ Relate days, dates, weeks, months, and years to a calendar.
$\checkmark \quad$ 0206.1.3 Use strategies to make estimates of time.
$\checkmark \quad 0206.1 .4$ Solve problems involving elapsed time in hour and half-hour intervals.
$\checkmark \quad 0206.1 .5$ Count the value of a set of coins up to one dollar and use the transitive property of equality to recognize equivalent forms of values up to $\$ 1.00$.
$\checkmark \quad 0206.1 .6$ Read thermometers with Fahrenheit and Celsius scales.
$\checkmark$ 0206.1.7 Measure weight to the nearest pound or kilogram.
$\checkmark$ 0206.1.8 Use concrete models or pictures to show whether a fraction is less than a half, more than a half, or equal to a half.
$\checkmark$ 0206.1.9 Match the spoken, written, concrete, and pictorial representations of halves, thirds, and fourths.
$\checkmark$ 0206.1.10 Develop a story problem that illustrates a given addition or subtraction number sentence.
$\checkmark$ 0206.1.11 Use manipulatives to demonstrate addition and subtraction sentences written symbolically.
$\checkmark \quad 0206.1 .12$ Write numbers and translate word clues to number sentences and vice versa.
$\checkmark$ 0206.1.13 Use manipulatives such as pattern blocks, tangrams, etc. to explore geometric concepts of symmetry and transformations.
$\checkmark$ 0206.1.14 Create and observe numerical patterns on a calculator by repeatedly adding or subtracting the same number from some starting number.
$\checkmark \quad 0206.1 .15$ Use age-appropriate books, stories, and videos to convey ideas of mathematics.

## Standard 2 - Number and Operations

## Grade Level Expectations:

GLE 0206.2.1 Understand and use place value concepts to 1000.
GLE 0206.2.2 Understand and use the base-ten numeration system.
GLE 0206.2.3 Use efficient and accurate strategies to develop fluency with multi-digit addition and subtraction.
GLE 0206.2.4 Develop an initial understanding of multiplication.

## Checks for Understanding (Formative/Summative Assessment):

$\checkmark$ 0206.2.1 Starting at any number, count by ones, twos, fives, tens, and hundreds up to 1000.
$\checkmark \quad 0206.2$ Read and write numbers up to 1000 using numerals and up to 100 using words.
$\checkmark \quad 0206.2$.3 Locate and interpret numbers on a number line.
$\checkmark$ 0206.2.4 Recognize that place-value notation represents the sums of multiples of powers of ten (e.g., 853 as 8 hundreds +5 tens +3 ones).
$\checkmark$ 0206.2.5 Compare and order multi-digit numbers up to 1000.
$\checkmark$ 0206.2.6 Use various models such as number lines, pictures, and base-ten blocks to illustrate addition and subtraction.
$\checkmark \quad$ 0206.2.7 Develop fluency at recalling basic addition facts and related subtraction facts.
$\checkmark \quad 0206.2 .8$ Use efficient procedures, and understand why they work, to solve problems involving the addition and subtraction of two- and three-digit whole numbers (including those that require regrouping for addition only).
$\checkmark \quad 0206.2 .9$ Apply appropriate methods to estimate and mentally calculate sums or differences with ones, tens, and hundreds.
$\checkmark$ 0206.2.10 Add three two-digit numbers.
$\checkmark$ 0206.2.11 Solve addition and subtraction problems in context using various representations.
$\checkmark \quad 0206.2 .12$ Demonstrate skip counting on the number line and relate to repeated addition and multiplication.
$\checkmark \quad 0206.2 .13$ Relate patterns in skip counting to multiplication.

## Standard 3 - Algebra

## Grade Level Expectations:

GLE 0206.3.1 Develop pattern recognition.
GLE 0206.3.2 Extend knowledge of the properties of numbers and operations to multiplication.
GLE 0206.3.3 Solve simple arithmetic problems using various methods.
GLE 0206.3.4 Describe quantitative change.

## Checks for Understanding (Formative/Summative Assessment):

$\checkmark$ 0206.3.1 Given rules, complete tables to reveal both arithmetic and geometric patterns.
$\checkmark \quad 0206.3$.2 Given a description, extend or find a missing term in a pattern or sequence.
$\checkmark$ 0206.3.3 Record and study patterns in lists of numbers created by repeated addition or subtraction.
$\checkmark$ 0206.3.4 Generalize the patterns resulting from the addition, subtraction and multiplication of combinations of odd and even numbers.
$\checkmark \quad 0206.3 .5$ Understand and use the commutative and associative properties of addition and multiplication.
$\checkmark \quad 0206.3 .6$ Relate repeated addition to multiplication.
$\checkmark$ 0206.3.7 Find unknowns in number sentences and problems involving addition, subtraction and multiplication.
$\checkmark \quad 0206.3$.8 Describe change in measures according to quantitative criteria such as growing 2 inches in one year.

## Standard 4 - Geometry and Measurement

## Grade Level Expectations:

GLE 0206.4.1 Recognize, classify, and transform 2- and 3-dimensional geometric figures.
GLE 0206.4.2 Understand the meaning and process of linear measurement.
GLE 0206.4.3 Add, subtract, compare, compute and estimate linear measurements.
GLE 0206.4.4 Compose and decompose polygons to make other polygons.

## Checks for Understanding (Formative/Summative Assessment):

$\checkmark$ 0206.4.1 Describe common geometric attributes of familiar plane and solid objects.
$\checkmark \quad 0206.4$.2 Reflect, rotate, and translate shapes to explore the effects of transformations.
$\checkmark$ 0206.4.3 Understand the property of transitivity as it relates to linear measurement (for example: If $A$ is longer than $B$, and $B$ is longer then $C$, then $A$ is longer than $C$ ).
$\checkmark$ 0206.4.4 Estimate, measure, and calculate length to the nearest unit: meter, centimeter, yard, foot, and inch.
$\checkmark \quad 0206.4$. $\quad$ Use rulers to measure the lengths of sides and diagonals of common 2-dimensional figures and polygons.
$\checkmark \quad 0206.4$.6 Understand the inverse relationship between the size of a unit and the number of units used in a particular measurement (the smaller the unit, the more iterations needed to cover the length).
$\checkmark \quad 0206.4 .7$ Investigate and describe composition, decomposition, and transformations of polygons.
$\checkmark$ 0206.4.8 Combine polygons to form other polygons and subdivide a polygon into other polygons.
$\checkmark \quad 0206.4 .9$ Recognize the composition and decomposition of polygons.

## Standard 5 - Data, Probability and Statistics

## Grade Level Expectations:

GLE 0206.5.1 Use and understand various representations to depict and analyze data measurements.
GLE 0206.5.2 Determine whether an event is likely or unlikely.

## Checks for Understanding (Formative/Summative Assessment):

$\checkmark$ 0206.5.1 Read, interpret, and analyze data shown in tables, bar graphs and picture graphs.
$\checkmark \quad 0206.5 .2$ Read, interpret, and create tables using tally marks.
$\checkmark$ 0206.5.3 Explain whether a real world event is likely or unlikely.
$\checkmark \quad 0206.5 .4$ Predict outcomes of events based on data gathered and displayed.

