

Grade One Mathematics

Standard – Processes or Content Strand

GLE – Grade Level Expectation

✓ – Check for Understanding

Standard 1 – Mathematical Processes

GLE 0106.1.1 Use mathematical language, symbols, and definitions while developing mathematical reasoning.

✓0106.1.8 Recognize the “word clues” and mathematical symbols for addition and subtraction.

GLE 0106.1.2 Apply and adapt a variety of appropriate strategies to problem solving, including estimation, and reasonableness of the solution.

GLE 0106.1.3 Develop independent reasoning to communicate mathematical ideas and derive algorithms and/or formulas.

GLE 0106.1.4 Move flexibly between concrete and abstract representations of mathematical ideas in order to solve problems, model mathematical ideas, and communicate solution strategies.

✓0106.1.7 Apply spatial sense to recreate a figure from memory.

✓0106.1.10 Match the spoken, written, concrete, and pictorial representations of whole numbers, one-half, and one-fourth.

GLE 0106.1.5 Use mathematical ideas and processes in different settings to formulate patterns, analyze graphs, set up and solve problems and interpret solutions.

✓0106.1.3 Compare units of time.

✓0106.1.5 Use a thermometer to measure temperature.

✓0106.1.6 Recognize scales as a way of measuring weight.

GLE 0106.1.6 Read and interpret the language of mathematics and use written/oral communication to express mathematical ideas precisely.

✓0106.1.1 Describe the relationship between days and months.

✓0106.1.2 Read and write time to the hour, half-hour, and quarter-hour.

GLE 0106.1.7 Recognize the historical development of mathematics, mathematics in context, and the connections between mathematics and the real world.

- ✓0106.1.4 Count the value of a set of coins up to fifty cents.
- ✓0106.1.9 Use age-appropriate books, stories, and videos to convey ideas of mathematics.

GLE 0106.1.8 Use technologies/manipulatives appropriately to develop understanding of mathematical algorithms, to facilitate problem solving, and to create accurate and reliable models of mathematical concepts.

Standard 2 – Number and Operations

GLE 0106.2.1 Understand and use number notation and place value to 100.

- ✓0106.2.1 Read and write numerals up to 100.
- ✓0106.2.6 Recognize the place value of numbers (tens, ones).
- ✓0106.2.15 Represent whole numbers between 10 and 100 in groups of tens and ones.

GLE 0106.2.2 Compare and order whole numbers to 100.

- ✓0106.2.2 Write numbers up to 10 in words.
- ✓0106.2.3 Count forward and backward by ones beginning with any number less than 100.
- ✓0106.2.4 Skip count by twos, fives, and tens.
- ✓0106.2.5 Order and compare (less than, greater than, or equal to) whole numbers to 100.
- ✓0106.2.16 Represent whole numbers up to 100 on a number line.
- ✓0106.2.17 Use the number line to create visual representations of sequences (such as even numbers, tens, multiples of five).

GLE 0106.2.3 Develop strategies for learning basic addition facts and related subtraction facts.

- ✓0106.2.7 Develop fluency with addition and subtraction facts of sums through ten.
- ✓0106.2.8 Relate “counting on” and “counting back” to addition and subtraction and understand them as inverse operations.
- ✓0106.2.9 Add three single-digit numbers.
- ✓0106.2.10 Use models (such as discrete objects, connecting cubes, and number lines) to represent “part-whole,” “adding to,” “taking away from,” and “comparing to” situations to develop understanding of the meaning of addition and subtraction.

GLE 0106.2.4 Use multiple representations (including groups of ten) to model two-digit addition and subtraction.

- ✓0106.2.12 Use various models to develop strategies for solving arithmetic problems.
- ✓0106.2.13 Solve problems that require addition and subtraction of numbers through 100.
- ✓0106.2.14 Use composition and decomposition of numbers to identify and discuss patterns.
- ✓0106.2.11 Recognize the “part-whole” relationship in representations of basic fractions such as $\frac{1}{2}$, $\frac{1}{4}$.

Standard 3 – Algebra

GLE 0106.3.1 Identify, describe, and extend simple number patterns to develop strategies for adding and subtracting whole numbers.

- ✓0106.3.1 Find repeating patterns on the number line, addition table, and hundreds chart.
- ✓0106.3.2 Determine a reasonable next term in a given sequence and describe the rule.

GLE 0106.3.2 Understand that addition and subtraction are inverse operations.

- ✓0106.3.3 Use objects to illustrate the commutative property with basic facts and show that subtraction is not commutative.
- ✓0106.3.4 Demonstrate understanding of the basic equation $a + b = c$ by using objects to illustrate the number sentences (fact families) associated with any particular sum.
- ✓0106.3.5 Use various strategies to find unknowns in problems involving addition and subtraction.
- ✓0106.3.6 Use objects to demonstrate the inverse relationship between addition and subtraction.
- ✓0106.3.7 Use the inverse relation between addition and subtraction to check arithmetic problems.

GLE 0106.3.3 Extend the strategies for basic facts to include other properties of number and operations.

- ✓0106.3.8 Determine whether a number is odd or even by pairing objects.
- ✓0106.3.9 Recognize that zero is the identity element for addition.

Standard 4 – Geometry and Measurement**GLE 0106.4.1 Recognize, describe, and draw geometric figures.**

- ✓0106.4.1 Recognize and describe similarities and differences between 2-dimensional figures (geometric attributes and properties).
- ✓0106.4.2 Recognize 2- and 3-dimensional figures from different perspectives and orientations.
- ✓0106.4.4 Identify 2-dimensional shapes as faces of 3-dimensional figures.

GLE 0106.4.2 Compose and decompose geometric shapes.

- ✓0106.4.3 Model part-whole relationships and properties of plane and solid figures by combining two or more shapes to make a larger shape or by breaking apart an object into its smaller shapes.

GLE 0106.4.3 Use non-standard units in linear measurement.

- ✓0106.4.5 Estimate and measure length using non-standard units (counting by using groups of tens and ones) to represent addition.
- ✓0106.4.6 Recognize the essential role of units in measurement, and understand the difference between standard and non-standard units.
- ✓0106.4.7 Understand and use comparative words such as long, longer, longest; short, shorter, shortest; tall, taller, tallest; high, higher, highest.

Standard 5 – Data, Probability and Statistics**GLE 0106.5.1 Use various representations to display and compare data.**

- ✓0106.5.1 Represent measurements and discrete data using concrete objects, picture graphs, and bar graphs.
- ✓0106.5.2 Represent data in both horizontal and vertical form.
- ✓0106.5.3 Display data using appropriate titles and labels.
- ✓0106.5.4 Count and compare collected data.