

Kindergarten Mathematics

Standard – Processes or Content Strand

GLE – Grade Level Expectation

✓ – Check for Understanding

Standard 1 – Mathematical Processes

GLE 0006.1.1 Use mathematical language, symbols, and definitions while developing mathematical reasoning.

GLE 0006.1.2 Apply and adapt a variety of appropriate strategies to problem solving, including estimation, and reasonableness of the solution.

✓0006.1.2 Begin to develop the concept of estimation using concrete objects.

GLE 0006.1.3 Develop independent reasoning to communicate mathematical ideas and derive algorithms and/or formulas.

GLE 0006.1.4 Move flexibly between concrete and abstract representations of mathematical ideas in order to solve problems, model mathematical ideas, and communicate solution strategies.

GLE 0006.1.5 Use mathematical ideas and processes in different settings to formulate patterns, analyze graphs, set up and solve problems and interpret solutions.

✓0006.1.1 Model addition and subtraction (e.g., using a number chart, number line and/or concrete objects).

✓0006.1.8 Recognize a thermometer as a way of measuring temperature.

GLE 0006.1.6 Read and interpret the language of mathematics and use written/oral communication to express mathematical ideas precisely.

✓0006.1.3 Use words to describe time (e.g., day, night, morning, afternoon, yesterday, today, tomorrow).

✓0006.1.4 Tell time to the hour.

✓0006.1.7 Use words to describe temperature (e.g., hot, warm, cool, cold).

GLE 0006.1.7 Recognize the historical development of mathematics, mathematics in context, and the connections between mathematics and the real world.

✓0006.1.5 Recognize a calendar as a way of measuring time.

✓0006.1.6 Name and identify coins and their values.

✓0006.1.9 Use age-appropriate books, stories, and videos to convey ideas of mathematics.

GLE 0006.1.8 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 0006.2.1 Count objects in a set and use numbers, including written numerals to 25.

✓0006.2.1 Count objects to 25 using one-to-one correspondence and identify the quantity in the counted group.

✓0006.2.2 Match quantities to 25 with numerals and written words.

✓0006.2.3 Count backward from 10 to 1.

✓0006.2.4 Count to 20 by twos.

GLE 0006.2.2 Create, represent and recognize a set with a given number of objects.

- ✓0006.2.5 Create a set with a given number of objects.
- ✓0006.2.6 Quickly recognize the number of objects in a small set.
- ✓0006.2.7 Recognize zero (0) as a set with “no objects”.
- ✓0006.2.8 Compare sets of ten or fewer objects and identify which are equal to, more than, or less than others.

GLE 0006.2.3 Recognize, compare and order sets of numerals by using both cardinal and ordinal meanings.

- ✓0006.2.9 Order the numbers through 25 using numerals and words.
- ✓0006.2.11 Recognize and use ordinal numbers (e.g., first, fourth, last).

GLE 0006.2.4 Understand addition as “putting together” and subtraction as “breaking apart.”

- ✓0006.2.12 Model simple joining and separating situations with objects.
- ✓0006.2.13 Add and subtract single-digit numbers whose total or difference is between 0 and 10.
- ✓0006.2.14 Understand add as “put together” or “count on” and solve addition problems with sums less than 20.
- ✓0006.2.15 Understand subtraction as “break apart” or “take away” and solve subtraction problems using numbers 1 through 10.
- ✓0006.2.16 Model, demonstrate, and solve story problems that illustrate addition and subtraction.

GLE 0006.2.5 Model the numbers 1 through 10 as sums or differences of different sets of whole numbers (composing and decomposing numbers).

- ✓0006.2.10 Recognize 6 through 10 as “five and some ones.”
- ✓0006.2.17 Understand that numbers can be represented by different groupings.

Standard 3 – Algebra**GLE 0006.3.1 Identify, duplicate, and extend simple number patterns and sequential and growing patterns.**

- ✓0006.3.2 Name, copy, and extend patterns.
- ✓0006.3.3 Translate simple patterns into rules.

GLE 0006.3.2 Recognize attributes (such as color, shape, size) and patterns (such as repeated pairs, bilateral symmetry).

- ✓0006.3.1 Use a variety of manipulatives (such as connecting cubes, number cards, shapes) to create patterns.
- ✓0006.3.4 Sort, order and classify objects by attribute and identify objects that do not belong in a particular group.

GLE 0006.3.3 Describe qualitative change.

- ✓0006.3.5 Describe change in attributes according to qualitative criteria such as longer/shorter, colder/warmer, heavier/lighter.

Standard 4 – Geometry and Measurement**GLE 0006.4.1 Interpret and describe the physical world with geometric ideas and vocabulary.**

- ✓0006.4.1 Identify, name, and describe a variety of shapes (i.e. circles, squares, triangles, rectangles, hexagons, trapezoids) shown in various positions.
- ✓0006.4.2 Identify, name, and describe three-dimensional shapes (such as sphere, cube, cone, cylinder).
- ✓0006.4.3 Sort plane figures into groups, name and describe the attributes of the shapes (such as number of sides and corners (vertices)).
- ✓0006.4.4 Sort solid figures into groups, name and describe the attributes of the shapes.
- ✓0006.4.5 Use basic shapes and spatial reasoning to model objects and construct more complex shapes.

GLE 0006.4.2 Use positional terms to specify locations with simple relationships.

✓0006.4.6 Identify positions (such as beside, inside, outside, above, below, between, on, over, under, near, far, forward, backward, top, middle, bottom, left, right) using models, illustrations, and stories.

GLE 0006.4.3 Compare and order measurable attributes of objects directly (by comparing them with each other) and indirectly (by comparing both with a third object).

✓0006.4.7 Make direct and indirect comparisons between objects (such as recognize which is shorter, longer, taller, lighter, heavier, or holds more).

Standard 5 – Data, Probability and Statistics**GLE 0006.5.1 Sort objects and use one or more attributes to solve problems.**

✓0006.5.1 Sort objects into sets and describe how the objects were sorted.
✓0006.5.3 Collect and count data

GLE 0006.5.2 Re-sort objects using new attributes.

✓0006.5.2 Sort objects in different ways.