

Grade 3

GLE 0306.2.1	Understand the place value of whole numbers to ten-thousands place including expanded notation for all arithmetic operations.	GLE 0306.2.2	Develop understanding of multiplication and related division facts through multiple strategies and representations.
GLE 0306.2.3	Relate multiplication and division as inverse operations.	GLE 0306.2.4	Solve multiplication and division problems using various representations.
GLE 0306.2.5	Understand the meaning and uses of fractions.	GLE 0306.2.6	Use various strategies and models to compare and order fractions and identify equivalent fractions.
GLE 0306.2.7	Add and subtract fractions with like denominators using various models.	✓ 0306.2.1	Represent whole numbers up to 10,000 using various models (such as base-ten blocks, number lines, place-value charts) and in standard form, written form, and expanded form.

- ✓ 0306.2.2 Understand and use the symbols =, < and > to signify order and comparison.
- ✓ 0306.2.3 Use parentheses to indicate grouping.
- ✓ 0306.2.4 Use a variety of methods to perform mental computations and compare the efficiency of those methods.
- ✓ 0306.2.5 Use highest order value (such as tens or hundreds digit) to make simple estimates.
- ✓ 0306.2.6 Solve a variety of addition and subtraction story problems including those with irrelevant information.
- ✓ 0306.2.7 Represent multiplication using various representations such as equal-size groups, arrays, area models, and equal jumps on number lines.
- ✓ 0306.2.8 Represent division using various representations such as successive subtraction, the number of equal jumps, partitioning, and sharing.
- ✓ 0306.2.9 Describe contexts for multiplication and division facts.

✓ 0306.2.10 Understand that symbols such as $\frac{1}{2}$, $\frac{1}{3}$, and $\frac{1}{4}$ represent numbers called unit fractions.

✓ 0306.2.11 Identify fractions as parts of whole units, as parts of sets, as locations on number lines, and as division of two whole numbers.

✓ 0306.2.12 Compare fractions using drawings, concrete objects, and benchmark fractions.

✓ 0306.2.13 Understand that when a whole is divided into equal parts to create unit fractions, the sum of all the parts adds up to one.

SPI 0306.2.1 Read and write numbers up to 10,000 in numerals and up to 1,000 in words.

SPI 0306.2.2 Identify the place value of numbers in the ten-thousands, thousands, hundreds, tens, and ones positions.

SPI 0306.2.3 Convert between expanded and standard form with whole numbers to 10,000.

SPI 0306.2.4 Compare and order numbers up to 10,000 using the words less than, greater than, and equal to, and the symbols $<$, $>$, $=$.

SPI 0306.2.5	Identify various representations of multiplication and division.	SPI 0306.2.6	Recall basic multiplication facts through 10 times 10 and the related division facts.
SPI 0306.2.7	Compute multiplication problems that involve multiples of ten using basic number facts.	SPI 0306.2.8	Solve problems that involve the inverse relationship between multiplication and division.
SPI 0306.2.9	Solve contextual problems involving the addition (with and without regrouping) and subtraction (without regrouping) of two- and three digit whole numbers.	SPI 0306.2.10	Identify equivalent fractions given by various representations.
SPI 0306.2.11	Recognize and use different interpretations of fractions.	SPI 0306.2.12	Name fractions in various contexts that are less than, equal to, or greater than one.

SPI 0306.2.13 Recognize, compare, and order fractions (benchmark fractions, common numerators, or common denominators).

SPI 0306.2.14 Add and subtract fractions with like denominators.

GLE 0306.3.1 Develop meaning for and apply the commutative, associative, and distributive properties using various representations.

GLE 0306.3.2 Develop understanding that a letter or a symbol can represent an unknown quantity in a simple mathematical expression/equation.

GLE 0306.3.3 Describe and analyze patterns and relationships in contexts.

GLE 0306.3.4 Create and represent patterns using words, tables, graphs, and symbols.

✓ 0306.3.1 Show that addition and multiplication are commutative operations.

✓ 0306.3.2 Show that subtraction and division are not commutative operations.

✓ 0306.3.3 Use commutative, associative, and distributive properties to multiply whole numbers.

✓ 0306.3.4 Solve problems using the commutative, associative, and distributive properties.

✓ 0306.3.5 Find unknowns in number sentences and problems involving addition, subtraction, multiplication, or division.

✓ 0306.3.6 Analyze patterns in words, tables, and graphs to draw conclusions.

✓ 0306.3.7 Create different representations of a pattern given a verbal description.

✓ 0306.3.8 Analyze patterns in quantitative change resulting from computation.

SPI 0306.3.1 Verify a conclusion using algebraic properties.

SPI 0306.3.2 Express mathematical relationships using number sentences/equations.

SPI 0306.3.3	Find the missing values in simple multiplication and division equations.	SPI 0306.3.4	Describe or extend (including finding missing terms) geometric and numeric patterns.
GLE 0306.4.1	Describe, compare, and analyze properties of polygons.	GLE 0306.4.2	Understand and apply the concepts of congruence and symmetry.
GLE 0306.4.3	Understand and use attributes of 2- and 3-dimensional figures to solve problems.	GLE 0306.4.4	Use appropriate units, strategies and tools to solve problems involving perimeter.
GLE 0306.4.5	Solve measurement problems involving fractional parts of linear units and capacity units.	✓ 0306.4.1	Describe properties of plane figures (such as circles, triangles, squares and rectangles) and solid shapes (such as spheres, cubes and cylinders).

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| ✓ | 0306.4.2 | Classify polygons according to the number of their sides and angles. | ✓ | 0306.4.3 | Classify lines and segments as parallel, perpendicular, or intersecting. |
| ✓ | 0306.4.4 | Identify, create, and describe figures with line symmetry. | ✓ | 0306.4.5 | Understand that all measurements require units. |
| ✓ | 0306.4.6 | Recognize the use of fractions in liquid measures. | ✓ | 0306.4.7 | Recognize the relationships among cups, pints, quarts, and gallons. |
| ✓ | 0306.4.8 | Estimate and/or measure the capacity of a container. | ✓ | 0306.4.9 | Measure weight to the nearest ounce or gram. |

✓ 0306.4.10 Use reasonable units of length (i.e. kilometer, meter, centimeter; mile, yard, foot, inch) in estimates and measures.

✓ 0306.4.11 Know common equivalences for length (1 meter = 100 centimeters, 1 yard = 3 feet, 1 foot = 12 inches).

✓ 0306.4.12 Make and record measurements that use mixed units within the same system of measurement (such as feet and inches, meters and centimeters).

✓ 0306.4.13 Use common abbreviations: km, m, cm, in, ft, yd, mi.

SPI 0306.4.1 Recognize polygons and be able to identify examples based on geometric definitions.

SPI 0306.4.2 Determine if two figures are congruent based on size and shape.

SPI 0306.4.3 Identify the line of symmetry in a two-dimensional design or shape.

SPI 0306.4.4 Calculate the perimeter of shapes made from polygons.

SPI 0306.4.5 Choose reasonable units of measure, estimate common measurements using benchmarks, and use appropriate tools to make measurements.

SPI 0306.4.6 Measure length to the nearest centimeter or half inch.

SPI 0306.4.7 Solve problems requiring the addition and subtraction of lengths.

GLE 0306.5.1 Organize, display, and analyze data using various representations to solve problems.

✓ 0306.5.1 Collect and organize data using observations, surveys, and experiments.

✓ 0306.5.2 Construct a frequency table, bar graph, pictograph, or line plot of collected data.

✓ 0306.5.3 Compare and interpret different representations of the same data.

✓ 0306.5.4 Solve problems using data from frequency tables, bar graphs, pictographs, or line plots.

SPI 0306.5.1 Interpret a frequency table, bar graph, pictograph, or line plot.

SPI 0306.5.2 Solve problems in which data is represented in tables or graph.

SPI 0306.5.3 Make predictions based on various representations of data.