## Idaho Extended Standards Draft Extended Content Indicators <br> Grade 6 <br> Mathematics

Standard 1: Number and Operation - Students in Grade 6 read, write, compare, and order whole numbers, fractions, and decimals. Students explain the use of fractions and decimals and their interrelationship. Students add, subtract, multiply, and divide whole numbers and decimals and students add and subtract fractions with unlike denominators and simplify as necessary. Students estimate to predict computation results.

Extended Standard 1: Students in Grade 6 read, write compare, and order whole numbers. Students recognize the use of fractions and decimals and their relationship to whole numbers. Students add, subtract, multiply, and divide whole numbers and simple decimals with or without a calculator. Students add simple fractions. Students estimate to predict simple computation results.

| Topic | GR | Goals | Objectives | Essence | Extended Content Indicators |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 6.M.1.1 | Understand and use numbers. | 6.M.1.1.1 Compare magnitudes and relative magnitudes of positive rational numbers, including whole numbers through billions, fractions, and decimals. (317.01.a, 317.01.d) |  | 6.M.1.1.1A <br> Recognize the magnitude of difference between small and large whole numbers. |
|  |  |  | 6.M.1.1.2 Explain the interrelationship of fractions, decimals, and percents. (317.01.b) |  | 6.M.1.1.2 A <br> Recognize corresponding common percents and decimals. |
|  |  |  | 6.M.1.1.3 Locate the position of integers on a number line. |  | 6.M.1.1.3A <br> Create a number line with positive numbers. |
|  |  |  | 6.M.1.1.4 Convert between decimals and fractions. (317.01.b) |  | 6M.1.1.4A <br> Match basic equivalent decimals and fractions, ie $.25=1 / 4$ |
|  |  |  | 6.M.1.1.5 Apply number theory concepts (prime, composite, prime factorization) and identify common factors and common multiples. (317.01.e) |  | 6.M.1.1.5 A <br> Use repeated addition to demonstrate prime numbers or factorization in multiplication. |
|  |  |  | 6.M.1.1.6 Solve problems using the 4-step process of problem solving (explore, plan, solve, and examine). (318.01.b) |  | 6.M.1.1.6 A <br> Recognize and demonstrate the appropriate problem solving strategy to solve a multi-step problem. |
|  |  |  | 6.M.1.1.7 Describe the use of integers in real-world situations. (317.01.f) |  | 6.M.1.1.7 A <br> Identify positive and negative numbers in real-world situations. |


|  |  |  | 6.M.1.1.8 Use appropriate <br> vocabulary. | 6.M.1.1.8 A <br> Use appropriate vocabulary. |
| :--- | :--- | :--- | :--- | :--- |

Standard 1: Number and Operation - Students in Grade 6 read, write, compare, and order whole numbers, fractions, and decimals. Students explain the use of fractions and decimals and their interrelationship. Students add, subtract, multiply, and divide whole numbers and decimals and students add and subtract fractions with unlike denominators and simplify as necessary. Students estimate to predict computation results.

Extended Standard 1: Students in Grade 6 read, write compare, and order whole numbers. Students recognize the use of fractions and decimals and their relationship to whole numbers. Students add, subtract, multiply, and divide whole numbers and simple decimals with or without a calculator. Students add simple fractions. Students estimate to predict simple computation results.

| Topic | Gr | Goal | Objectives | Essence | Extended Content Indicators |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | 6.M.1.2 | Perform computations <br> accurately. | 6.M.1.2.1 Recall basic <br> multiplication and division <br> facts from 12 x 12 Times <br> Table. (317.02.d) |  | 6.M.1.2.1A <br> Introduce the use of a multiplication chart to solve multiplication and division problems. |
|  |  |  | 6.M.1.2.2 Add, subtract, <br> multiply, and divide whole <br> numbers, decimals, and <br> simple fractions (including <br> unlike denominators). <br> (317.02.a, 317.02.b, 317.02.c, <br> 317.02.g) |  | 6.M.1.2.2 A <br> Add, subtract, multiple, or divide single digit whole numbers or simple decimals, with or without <br> the use of a calculator or manipulatives. |
|  |  |  | 6.M.1.2.3 Evaluate numerical <br> expressions with whole <br> numbers using the order of <br> operations (excluding <br> exponents). (317.02.e) |  | 6.M.1.2.3 A <br> Solve single digit addition and subtraction problems using an order of operations, with or without <br> calculators or manipulatives |
|  |  |  | 6.M.1.2.4 Select and use an <br> appropriate method of <br> computation from mental <br> math, paper and pencil, <br> calculator or a combination of <br> the three. (317.02.h) |  | 6.M.1.2.4 A <br> Use concrete objects, symbolic systems or calculator to solve addition or subtractions problems. |
|  |  |  | 6.M.1.2.5 Use a variety of <br> strategies to solve real life <br> problems. (318.01.a) |  | 6.M.1.2.6 Use appropriate <br> vocabulary and notations. <br> (317.02.i) |

Standard 1: Number and Operation - Students in Grade 6 read, write, compare, and order whole numbers, fractions, and decimals. Students explain the use of fractions and decimals and their interrelationship. Students add, subtract, multiply, and divide whole numbers and decimals and students add and subtract fractions with unlike denominators and simplify as necessary. Students estimate to predict computation results.

Extended Standard 1: Students in Grade 6 read, write compare, and order whole numbers. Students recognize the use of fractions and decimals and their relationship to whole numbers. Students add, subtract, multiply, and divide whole numbers and simple decimals with or without a calculator. Students add simple fractions. Students estimate to predict simple computation results.

| Topic | Gr | Goal | Objectives | Essence | Alternate Content Indicators |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | 6.M.1.3 | Estimate and judge <br> reasonableness of results. | 6.M.1.3.1 Estimate to predict <br> computation results. <br> (317.03.a) |  | 6.M.1.3.1A <br> Estimate to predict results or amounts. |
|  |  |  | 6.M.1.3.2 Explain when <br> estimation is appropriate. <br> (317.03.b) |  | 6.M.1.3.2 A <br> Identify daily activities where estimation is appropriate. |
|  |  |  | 6.M.1.3.3 Identify whether a <br> given estimate is an <br> overestimate or underestimate. <br> (317.03.c) |  | 6.M.1.3.3 A <br> Determine over and under estimations in daily living activities. |
|  |  |  | 6.M.1.3.4 Use a four-function <br> calculator to solve complex <br> grade-level problems. |  | 6.M.1.3.4A <br> Use a calculator to solve problems. |
|  |  | 6.M.1.3.5 Formulate <br> conjectures and discuss why <br> they must be or seem to be <br> true. (318.02.c) |  | 6.M.1.3.5 A <br> Formulate a guess to a problem. |  |

Standard 2: Concepts and Principles of Measurement - Students in Grade 6 select and use appropriate units and tools to make formal measurements in both systems. Students use given formulas for perimeter and area of triangles, circles, and parallelograms, and for circumference and area of circles. Students solve problems involving perimeter and area of rectangles. Students convert unit of measurement within each system in one step problems.

Extended Standard 2: Students in Grade 6 select and use appropriate units and tools to make formal measurements. Students recognize the perimeter and area of triangles, circles, and parallelograms, and the circumference and area of circles.. Students identify equivalent unit of measurements in one step problems.

| Topic | Gr | Goal | Objectives | Essence | Extended Content Indicators |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 6.M.2.1 | Understand and use U.S. customary and metric measurements. | 6.M.2.1.1 Select and use appropriate units and tools to make formal measurements in both systems. (319.01.a) |  | 6.M.2.1.1A <br> Select and use appropriate units and tools to make formal measurements. |
|  |  |  | 6.M.2.1.2 Apply estimation of measurement to real-world and content problems using standard measuring devices. (319.01.b) |  | 6.M.2.1.2 A <br> Estimate length, time, weight, capacity, temperature, or capacity (volume) in real-world problems. |
|  |  |  | 6.M.2.1.3 Apply understanding of relationships to solve real-world problems related to elapsed time. (319.01.f) |  | 6.M.2.1.3 A <br> Identify real world problems related to elapsed time. |
|  |  |  | 6.M.2.1.4 Given the formulas, find the perimeter or circumference and area of triangles, circles and parallelograms (all kinds). (319.01.c, 321.01.e) |  | 6.M.2.1.4 A <br> Recognize the concept of around (perimeter and circumference) for simple shapes, i.e. circle, triangle. |
|  |  |  | 6.M.2.1.5 Convert units of measurement within each system in one-step problems (e.g., quarts to gallons and gallons to quarts). (319.01.e) |  | 6.M.2.1.5 A <br> Identify equivalent units of measurement. |
|  |  |  | 6.M.2.1.6 Solve problems involving perimeter and area of rectangles. (321.01.d) |  | 6.M.2.1.6 A <br> Identify the location of perimeter and area with rectangles. |
|  |  |  | 6.M.2.1.7 Use appropriate vocabulary and notations. (319.01.g) |  | 6.M.2.1.7 A <br> Use appropriate vocabulary. |

Standard 2: Concepts and Principles of Measurement - Students in Grade 6 select and use appropriate units and tools to make formal measurements in both systems. Students use given formulas for perimeter and area of triangles, circles, and parallelograms, and for circumference and area of circles. Students solve problems involving perimeter and area of rectangles. Students convert unit of measurement within each system in one step problems.

Extended Standard 2: Students in Grade 6 select and use appropriate units and tools to make formal measurements. Students recognize the perimeter and area of triangles, circles, and parallelograms, and the circumference and area of circles.. Students identify equivalent unit of measurements in one step problems.

| Topic | Gr | Goal | Objectives | Essence | Extended Content Indicators |
| :--- | :---: | :--- | :--- | :--- | :--- |
|  | 6. M.2.2 | Apply the concepts of rates, <br> ratios, and proportions. | 6.M.2.2.1 Identify and write <br> ratios and scales (on a map). <br> (319.03.a) |  | 6.M.2.2.1A <br> Match a concrete representation to a simple ratio, i.e. 1 sandwich to 2 people |

Standard 2: Concepts and Principles of Measurement - Students in Grade 6 select and use appropriate units and tools to make formal measurements in both systems. Students use given formulas for perimeter and area of triangles, circles, and parallelograms, and for circumference and area of circles. Students solve problems involving perimeter and area of rectangles. Students convert unit of measurement within each system in one step problems.

Extended Standard 2: Students in Grade 6 select and use appropriate units and tools to make formal measurements. Students recognize the perimeter and area of triangles, circles, and parallelograms, and the circumference and area of circles.. Students identify equivalent unit of measurements in one step problems.

| Topic | Gr | Goal | Objective | Essence | Extended Content Indicators |
| :--- | :---: | :--- | :--- | :--- | :--- |
|  | 6.M.2.3 | Apply dimensional analysis. | No objectives at this grade <br> level. | No objectives at this grade level. |  |
|  | 6.M.2.4 | Apply appropriate techniques <br> and tools to determine <br> measurements. | No objectives at this grade <br> level. | No objectives at this grade level. |  |

Standard 3: Concepts and Language of Algebra and Functions - Students in Grade 6 read and use symbols of " $<$," " $>$," and " $=$ " to express relationships. Students evaluate simple algebraic expressions using substitution. Students extend simple patterns and state a rule that generates the pattern using whole numbers, decimals, fractions as inputs, and students use patterns and functions to represent and solve simple problems.

Extended Standard 3: Students in Grade 6 identify the vocabulary and/or symbols of " $<$," " $>$," and " $=$ " to express relationships. Students identify a variable as an unknown quantity in simple algebraic expressions. Students identify simple patterns and match a rule that generates the pattern using whole numbers or fractions as inputs. Students use patterns to solve simple problems.

| Topic | Gr | Goal | Objectives | Essence | Extended Content Indicators |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 6.M.3.1 | Use algebraic symbolism as a tool to represent mathematical relationships. | 6.M.3.1.1 Discuss the meaning and use of variables in simple expressions and equations. (320.01.a) |  | 6.M.3.1.1 A <br> Identify a variable as an unknown quantity using a letter or symbol in a simple equation. |
|  |  |  | 6.M.3.1.2 Translate simple word statements into algebraic equations. (320.01.b) |  | 6.M.3.1.2A <br> Translate simple word statements into numeric expressions. |
|  |  |  | 6.M.3.1.3 Read and use symbols of "<," " $>$," and " $=$ " to express relationships. (320.01.c) |  | 6.M.3.1.3 A <br> Identify relationships using vocabulary or symbols of "<," ">," and " $=$ " |

Standard 3: Concepts and Language of Algebra and Functions - Students in Grade 6 read and use symbols of " $<$," " $>$," and " $=$ " to express relationships. Students evaluate simple algebraic expressions using substitution. Students extend simple patterns and state a rule that generates the pattern using whole numbers, decimals, fractions as inputs, and students use patterns and functions to represent and solve simple problems.

Extended Standard 3: Students in Grade 6 identify the vocabulary and/or symbols of " $<$, ," " $>$," and " $=$ " to express relationships. Students identify a variable as an unknown quantity in simple algebraic expressions. Students identify simple patterns and match a rule that generates the pattern using whole numbers or fractions as inputs. Students use patterns to solve simple problems.

| $\overline{\text { Topic }}$ | Gr | Goal | Objective | Essence |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | $6 . \mathbf{M}^{\prime} .3$ | Evaluate algebraic expressions. | 6.M.3.2.1 Use the following <br> properties in evaluating <br> numerical expressions: <br> commutative, associative, <br> identity, zero, inverse, and <br> distributive. (320.02.a) |  | 6.M.3.2.1 A <br> Use the following properties in evaluating numerical expressions: commutative, identity, zero, or <br> inverse. |
|  |  |  | 6.M.3.2.2 Evaluate simple <br> algebraic expressions using <br> substitution. |  | 6.M.3.2.2 A <br> Solve simple algebraic expressions. |

Standard 3: Concepts and Language of Algebra and Functions - Students in Grade 6 read and use symbols of " $<$," " $>$," and " $=$ " to express relationships. Students evaluate simple algebraic expressions using substitution. Students extend simple patterns and state a rule that generates the pattern using whole numbers, decimals, fractions as inputs, and students use patterns and functions to represent and solve simple problems.

Extended Standard 3: Students in Grade 6 identify the vocabulary and/or symbols of " $<, "$ " $>$," and " $=$ " to express relationships. Students identify a variable as an unknown quantity in simple algebraic expressions. Students identify simple patterns and match a rule that generates the pattern using whole numbers or fractions as inputs. Students use patterns to solve simple problems.

| Topic | Gr | Goal | Objective | Essence | Extended Content Indicators |
| :--- | :---: | :--- | :--- | :--- | :--- |
|  | 6. M.3.3 | Solve algebraic equations and <br> inequalities. | 6.M.3.3.1 Solve one-step <br> equations with whole <br> numbers. (320.03.a) | 6.M.3.3.1 A <br> Solve one-step equations with whole numbers, using concrete objects or a calculator when <br> necessary. |  |

Standard 3: Concepts and Language of Algebra and Functions - Students in Grade 6 read and use symbols of " $<$," " $>$," and " $=$ " to express relationships. Students evaluate simple algebraic expressions using substitution. Students extend simple patterns and state a rule that generates the pattern using whole numbers, decimals, fractions as inputs, and students use patterns and functions to represent and solve simple problems.

Extended Standard 3: Students in Grade 6 identify the vocabulary and/or symbols of " $<, "$ " $>$," and " $=$ " to express relationships. Students identify a variable as an unknown quantity in simple algebraic expressions. Students identify simple patterns and match a rule that generates the pattern using whole numbers or fractions as inputs. Students use patterns to solve simple problems.

| Topic | Gr | Goal | Objective | Essence |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | 6.M.3.4 | Understand the concept of <br> functions. | 6.M.3.4.1 Extend simple <br> patterns and state a rule <br> (function) that generates the <br> pattern using whole numbers, <br> decimals, and fractions as <br> inputs. (323.01.a) |  | 6.M.3.4.1.A <br> Identify a simple pattern using whole numbers or fractions as inputs. |
|  |  |  | 6.M.3.4.2 Describe and <br> extend patterns by using <br> manipulatives and pictorial <br> representations. (323.01.b) |  | 6.M.3.4.2 A <br> Extend whole number patterns, using manipulatives and pictorial representations if needed. |
|  |  | 6.M.3.4.3 Use mathematical <br> models to show change in a <br> real world context. (323.01.c) |  | 6.M.3.4.3. A <br> Identify change in quantity in real world context. |  |
|  |  | 6.M.3.4.4 Use appropriate <br> vocabulary. (323.01.d) |  | 6.M.3.4.4 A <br> Use appropriate vocabulary. |  |

Standard 3: Concepts and Language of Algebra and Functions - Students in Grade 6 read and use symbols of " $<$," " $>$," and " $=$ " to express relationships. Students evaluate simple algebraic expressions using substitution. Students extend simple patterns and state a rule that generates the pattern using whole numbers, decimals, fractions as inputs, and students use patterns and functions to represent and solve simple problems.

Extended Standard 3: Students in Grade 6 identify the vocabulary and/or symbols of " $<$," " $>$," and " $=$ " to express relationships. Students identify a variable as an unknown quantity in simple algebraic expressions. Students identify simple patterns and match a rule that generates the pattern using whole numbers or fractions as inputs. Students use patterns to solve simple problems.

| Topic | Gr | Goal | Objective | Essence | Extended Content Indicators |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | 6. M.3.5 $^{\text {Represent equations, }}$Requalies and functions in a <br> inequaty <br> variety of formats. | No objectives at this grade <br> level. | No objectives at this grade level. |  |  |
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Standard 3: Concepts and Language of Algebra and Functions - Students in Grade 6 read and use symbols of " $<$," " $>$," and " $=$ " to express relationships. Students evaluate simple algebraic expressions using substitution. Students extend simple patterns and state a rule that generates the pattern using whole numbers, decimals, fractions as inputs, and students use patterns and functions to represent and solve simple problems.

Extended Standard 3: Students in Grade 6 identify the vocabulary and/or symbols of " $<, "$ " $>$," and " $=$ " to express relationships. Students identify a variable as an unknown quantity in simple algebraic expressions. Students identify simple patterns and match a rule that generates the pattern using whole numbers or fractions as inputs. Students use patterns to solve simple problems.

| Topic | Gr | Goal | Objective | Essence | Extended Content Indicators |
| :--- | :---: | :--- | :--- | :--- | :--- |
|  | 6. M.3.6 | Apply functions to a variety of <br> problems. | 6.M.3.6.1 Use patterns to <br> represent and solve simple <br> problems. | 6.M.3.6.1A <br> Use concrete manipulatives to represent a pattern and solve simple problems. |  |

Standard 4: Concepts and Principles of Geometry - Students in Grade 6 describe and classify relationships among types of one-, two- and threedimensional geometric figures using their defining properties. Students identify congruence, similarities, and symmetry of shapes and students identify and plot points in the first quadrant on a coordinate plane.

Extended Standard 4: Students in Grade 6 classify relationships among types of one-, two- or three- dimensional geometric figures using their defining properties. Students recognize congruence, similarities, and symmetry of shapes. Students identify the first quadrant on a coordinate plane.

| Topic | Gr | Goal | Objective | Essence |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | 6.M.4.1 | Apply concepts of size, shape, <br> and spatial relationships. | 6.M.4.1.1 Describe <br> relationships among types of <br> one- and two- dimensional <br> geometric figures, using their <br> defining properties. (321.01.a) |  | 6.M.4.1.1A <br> Recognize the difference between a one and to dimensional geometric figures, using their defining <br> properties. |
|  |  |  | 6.M.4.1.2 Draw and measure <br> various angles and shapes <br> using appropriate tools. <br> (321.01.b) |  | 6.M.4.1.2.A <br> Identify and copy various angles and shapes using appropriate tools. |
|  |  |  | 6.M.4.1.3 Apply fundamental <br> concepts, properties, and <br> relationships among points, <br> lines, rays, and angles. <br> (321.01.c) |  | 6.M.4.1.3 A <br> Differentiate between a line segment and a point |
|  |  |  | 6.M.4.1.4 Describe <br> reflections, translations, and <br> rotations on various shapes. <br> (321.01.g) |  | 6.M.4.1.4.A <br> Differentiate between reflections, translations, or rotations on various shapes. |
|  |  |  | 6.M.4.1.5 Identify <br> congruence, similarities, and <br> line symmetry of shapes. <br> (321.01.d) |  | 6.M.4.1.5.A <br> Arrange shapes to show congruence, similarities, and line symmetry of shapes. |
|  |  |  | 6.M.4.1.6 Discuss the spatial <br> relationship between two- and <br> three-dimensional objects. <br> (321.01.f) |  | 6.M.4.1.6.A <br> Recognize the difference in spatial relationships between two- and three-dimensional objects. |

Standard 4: Concepts and Principles of Geometry - Students in Grade 6 describe and classify relationships among types of one-, two- and threedimensional geometric figures using their defining properties. Students identify congruence, similarities, and symmetry of shapes and students identify and plot points in the first quadrant on a coordinate plane.

Extended Standard 4: Students in Grade 6 classify relationships among types of one-, two- or three- dimensional geometric figures using their defining properties. Students recognize congruence, similarities, and symmetry of shapes. Students identify the first quadrant on a coordinate plane.

| Topic | Gr | Goal | Objective | Essence | Extended Content Indicators |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | $6 . \mathrm{M.}^{4.2}$ | Apply the geometry of right <br> triangles. | No objectives at this grade <br> level. | No objectives at this grade level. |  |
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Standard 4: Concepts and Principles of Geometry - Students in Grade 6 describe and classify relationships among types of one-, two- and threedimensional geometric figures using their defining properties. Students identify congruence, similarities, and symmetry of shapes and students identify and plot points in the first quadrant on a coordinate plane.

Extended Standard 4: Students in Grade 6 classify relationships among types of one-, two- or three- dimensional geometric figures using their defining properties. Students recognize congruence, similarities, and symmetry of shapes. Students identify the first quadrant on a coordinate plane.

| Topic | Gr | Goal | Objective | Essence | Extended Content Indicators |
| :--- | :---: | :--- | :--- | :--- | :--- |
|  | $6 . M .4 .3$ | Apply graphing in two <br> dimensions. | 6.M.4.3.1 Identify and plot <br> points in the first quadrant on <br> a coordinate plane. (321.02.a) |  | 6.M.4.3.1.A <br> Identify the first quadrant on a coordinate plane. |

Standard 4: Concepts and Principles of Geometry - Students in Grade 6 describe and classify relationships among types of one-, two- and threedimensional geometric figures using their defining properties. Students identify congruence, similarities, and symmetry of shapes and students identify and plot points in the first quadrant on a coordinate plane.

Extended Standard 4: Students in Grade 6 classify relationships among types of one-, two- or three- dimensional geometric figures using their defining properties. Students recognize congruence, similarities, and symmetry of shapes. Students identify the first quadrant on a coordinate plane.

| Topic | Gr | Goal | Objective | Essence | Extended Content Indicators |
| :--- | :---: | :--- | :--- | :--- | :--- |
|  | 6.M.4.4 | Represent and graph linear <br> relationships. | No objectives at this grade <br> level. | No objectives at this grade level. |  |
|  | 6. M.4.5 | Use reasoning skills. | No objectives at this grade <br> level. |  | No objectives at this grade level. |

Standard 5: Data Analysis, Probability, and Statistics - Students in Grade 6 read and interpret tables, charts and graphs, including line graphs, bar graphs, frequency line or line plot, and circle graph. Students collect, organize, and display the data with appropriate notation in tables, charts, and graphs, including line graphs, bar graphs, and frequency line or line plot. Students find measures of central tendency - mean, median, and mode with simple sets of data and students calculate the range of a set of data. Students predict, perform, and record results of simple probability experiments.

Extended Standard 5: Students in Grade 6 read and interpret charts and graphs, including line graphs, bar graphs, and circle graphs. Students collect, organize, and display the data with appropriate notation in charts and graphs. Students find measures of central tendency - median, and mode - with simple sets of data and students identify the range of a set of data. Students participate in simple probability experiments.

| Topic | Gr | Goal | Objective | Essence |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | 6.M.5.1 | Understand data analysis. |  | 6.M.5.1.1 Read and interpret <br> tables, charts, and graphs, <br> including broken line graphs, <br> bar graphs, frequency tables, <br> line plots, and circle graphs. <br> (322.01.a) |  |
|  |  | 6.M.5.1.2 Explain and justify <br> stated conclusions drawn from <br> tables, charts, and graphs. <br> (322.01.b) | 6.M.5.1.1.A <br> Read and interpret charts and graphs, including line graphs, bar graphs, frequency charts, or <br> circle graphs. |  |  |
|  |  |  | 6.M.5.1.3 Use appropriate <br> vocabulary and notations. <br> (322.01.c) | 6.M.5.1.2.A <br> Identify conclusions drawn from charts or graphs. |  |

Standard 5: Data Analysis, Probability, and Statistics - Students in Grade 6 read and interpret tables, charts and graphs, including line graphs, bar graphs, frequency line or line plot, and circle graph. Students collect, organize, and display the data with appropriate notation in tables, charts, and graphs, including line graphs, bar graphs, and frequency line or line plot. Students find measures of central tendency - mean, median, and mode with simple sets of data and students calculate the range of a set of data. Students predict, perform, and record results of simple probability experiments.

Extended Standard 5: Students in Grade 6 read and interpret charts and graphs, including line graphs, bar graphs, and circle graphs. Students collect, organize, and display the data with appropriate notation in charts and graphs. Students find measures of central tendency - median, and mode - with simple sets of data and students identify the range of a set of data. Students participate in simple probability experiments.

| Topic | Gr | Goal | Objective | Essence | Extended Content Indicators |
| :--- | :---: | :--- | :--- | :--- | :--- |
|  | $6 . M .5 .2$ | Collect, organize, and display <br> data. | 6.M.5.2.1 Collect, organize, <br> and display the data with <br> appropriate notation in tables, <br> charts, and graphs, including <br> broken line graphs, bar <br> graphs, frequency tables and <br> line plots. (322.02.a) | 6.M.5.2.1.A <br> Collect, organize, and display the data with appropriate notation in charts or graphs. |  |

Standard 5: Data Analysis, Probability, and Statistics - Students in Grade 6 read and interpret tables, charts and graphs, including line graphs, bar graphs, frequency line or line plot, and circle graph. Students collect, organize, and display the data with appropriate notation in tables, charts, and graphs, including line graphs, bar graphs, and frequency line or line plot. Students find measures of central tendency - mean, median, and mode with simple sets of data and students calculate the range of a set of data. Students predict, perform, and record results of simple probability experiments.

Extended Standard 5: Students in Grade 6 read and interpret charts and graphs, including line graphs, bar graphs, and circle graphs. Students collect, organize, and display the data with appropriate notation in charts and graphs. Students find measures of central tendency - median or mode - with simple sets of data and students identify the range of a set of data. Students participate in simple probability experiments.

| Topic | Gr | Goal | Objective | Essence | Extended Content Indicators |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 6.M.5.3 | Apply simple statistical measurements. | 6.M.5.3.1 Find measures of central tendency - mean, median, and mode - with simple sets of data. (322.03.a) |  | 6.M.5.3.1.A <br> Find the median or mode - with simple sets of data. |
|  |  |  | 6.M.5.3.2 Calculate the range of a set of data. (322.03.b) |  | 6.M.5.3.2.A <br> Calculate the range of a set of data using whole numbers 1-10. |

Standard 5: Data Analysis, Probability, and Statistics - Students in Grade 6 read and interpret tables, charts and graphs, including line graphs, bar graphs, frequency line or line plot, and circle graph. Students collect, organize, and display the data with appropriate notation in tables, charts, and graphs, including line graphs, bar graphs, and frequency line or line plot. Students find measures of central tendency - mean, median, and mode with simple sets of data and students calculate the range of a set of data. Students predict, perform, and record results of simple probability experiments.

Extended Standard 5: Students in Grade 6 read and interpret charts and graphs, including line graphs, bar graphs, and circle graphs. Students collect, organize, and display the data with appropriate notation in charts and graphs. Students find measures of central tendency - median, and mode - with simple sets of data and students identify the range of a set of data. Students participate in simple probability experiments.

| Topic | Gr | Goal | Objective | Essence |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | 6. M.5.4 | Understand basic concepts of <br> probability. | 6.M.5.4.1 Predict, perform, <br> and record results of simple <br> probability experiments. <br> (322.04.a) | Extended Content Indicators <br> Perform and record results of simple probability experiments. |  |
|  |  |  | 6.M.5.4.2 Use the language of <br> probability. (322.04.b) | 6.M.5.4.2.A <br> Use the language of probability. |  |

Standard 5: Data Analysis, Probability, and Statistics - Students in Grade 6 read and interpret tables, charts and graphs, including line graphs, bar graphs, frequency line or line plot, and circle graph. Students collect, organize, and display the data with appropriate notation in tables, charts, and graphs, including line graphs, bar graphs, and frequency line or line plot. Students find measures of central tendency - mean, median, and mode with simple sets of data and students calculate the range of a set of data. Students predict, perform, and record results of simple probability experiments.

Extended Standard 5: Students in Grade 6 read and interpret charts and graphs, including line graphs, bar graphs, and circle graphs. Students collect, organize, and display the data with appropriate notation in charts and graphs. Students find measures of central tendency - median, and mode - with simple sets of data and students identify the range of a set of data. Students participate in simple probability experiments.

| Topic | Gr | Goal | Objective | Essence | Extended Content Indicators |
| :--- | :---: | :--- | :--- | :--- | :--- |
|  | 6. M.5.5 | Make predictions or decisions <br> based on data. | 6.M.5.5.1 Make predictions <br> based on data. (318.01.c) |  | 6.M.5.5.1A <br> Make predictions based on data. |

