

## Math Grade 6

ORExt Standard Code	Equivalent OR Standard Code	2021 Oregon Mathematics Standards	Oregon Alternate Academic Achievement Standard (Essentialized Standard)	Low (L), Medium (M), High (H) Parameters
M06EXE1.1	6.AEE.A.1	Write and evaluate numerical expressions involving whole-number bases and exponents.	Identify expressions that match a verbal and/or graphic model.	<b>L:</b> Identify expressions that involve one term. <b>M:</b> Identify expressions involving two terms. <b>H:</b> Identify expressions involving three terms.
M06EXE1.3	6.AEE.A.3	Apply the properties of operations to generate equivalent expressions and to determine when two expressions are equivalent.	Identify equivalent expressions using one variable.	<b>L:</b> Identify expressions involving addition with single variable solutions 1-10. <b>M:</b> Identify expressions involving addition/subtraction with two term expression solutions involving 1-20. <b>H:</b> Identify expressions involving addition/subtraction with 2-3 term expression solutions 21-40.
M06EXE2.5	6.AEE.B.4	Understand solving an equation or inequality as a process of answering which values from a specified set, if any, make the equation or inequality true. Use substitution to determine which number(s) in a given set make an equation or inequality true.	Identify set that is a possible solution for a given equation/inequality.	<b>L:</b> Equations involving addition of one variable (e.g., "x") with solutions in 1-10 range. <b>M:</b> Equations involving add/subtract of 1-2 variables (e.g., "x" and "y") with solutions in 11-20 range. <b>H:</b> Equations/inequalities involving add/subtract of 1-3 variables (e.g., "x", "y", "z") with solutions in 1-10 range for inequalities or 21-30 range for equations.

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M06EXE2.7	6.AEE.B.6	Write and solve equations of the form $x + p = q$ and $px = q$ in problems that arise from authentic contexts for cases in which $p$ , $q$ and $x$ are all nonnegative rational numbers.	Identify solutions for expressions or equations with up to three variables.	<b>L:</b> Identify solutions to expressions with coefficient totals (1-10). <b>M:</b> Identify solutions to expressions/equations with coefficient totals (11-20) with two variables. <b>H:</b> Identify solutions to equations with coefficient totals 1-20 with 3 variables.
M06EXE2.8	6.AEE.B.7	Write inequalities of the form $x > c$ and $x < c$ to represent constraints or conditions to solve problems in authentic contexts. Describe and graph on a number line solutions of inequalities of the form $x > c$ and $x < c$ .	Identify which inequality matches a verbal description or number line representation.	<b>L:</b> Identify singular inequalities using one variable and 1-10. <b>M:</b> Identify singular inequalities using 1-2 variables and 1-20. <b>H:</b> Identify multiple inequalities using up to 3 variables and 11-40 (e.g., $2 \leq x \leq 10$ or separate inequalities such as $x \leq 7$ and $y > 4$ ).
M06EXE3.9	6.AEE.C.8	Use variables to represent and analyze two quantities to solve problems in authentic contexts. Including those that change in relationship to one another; write an equation to express one quantity in terms of the other quantity.	Identify or use an equation with one variable to represent a real world relationship between two quantities.	<b>L:</b> Identify a variable that stands for an unknown in a real-world situation (e.g., " $x$ = number of apples"). <b>M:</b> Identify an equation with one variable that matches a simple pattern or real-world relationship (e.g., " $y = x + 2$ "). <b>H:</b> Use a given equation with one variable (e.g., $y = 2x$ ) to solve a word problem involving two quantities.

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M06GEO1.1	6.GM.A.1	Find the area of triangles, quadrilaterals, and other polygons by composing into rectangles or decomposing into triangles and other shapes. Apply these techniques to solve problems in authentic contexts.	Sum areas of squares, rectangles, and triangles to determine the area of a total figure in square units.	<b>L:</b> Identify the total area of a figure composed of unit squares (1-10 square units). <b>M:</b> Identify the total area of a figure composed of squares and rectangles (11-20 square units). <b>H:</b> Identify the total area of figures composed of rectangles and triangles (21-40 square units).
M06GEO1.2	6.GM.A.2	Find the volume of a right rectangular prism with fractional edge lengths by filling it with unit cubes of appropriate unit fraction edge lengths. Connect and apply to the formulas $V = l \times w \times h$ and $V = b \times h$ to find volumes of right rectangular prisms with fractional edge lengths to solve problems in authentic contexts.	Find the volume of a figure given verbal and visual support ( $V = l \times w \times h$ or $V = b \times h$ ).	<b>L:</b> Solve problems involving volumes 1-10. <b>M:</b> Solve problems involving volumes 11-20. <b>H:</b> Solve problems involving volumes 21-40.

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M06GEO1.3	6.GM.A.3	Draw polygons in the four quadrant coordinate plane given coordinates for the vertices and find the length of a side. Apply these techniques to solve problems in authentic contexts.	Identify location of a point on a geometric figure in quadrant 1 of the coordinate plane.	<b>L:</b> Identify coordinates for a missing point on a triangle. <b>M:</b> Identify coordinates for a missing point on a square or rectangle. <b>H:</b> Identify coordinates for a missing point on a rhombus or pentagon.
M06GEO1.4	6.GM.A.4	Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures, including those from authentic contexts.	Match a 3D figure to the corresponding net.	<b>L:</b> Match a net to a cube (1-10 side lengths). <b>M:</b> Match a net to a rectangle (12-20 side lengths). <b>H:</b> Match a net to a triangular prism (21-40 side lengths).
M06RPR1.1	6.RP.A.1	Understand the concept of a ratio in authentic contexts, and use ratio language to describe a ratio relationship between two quantities.	Identify which ratio matches a verbal description.	<b>L:</b> Match ratios (1-3):(1-3). <b>M:</b> Match ratios from (4-10):(4-10). <b>H:</b> Match ratios (11-20):(11-20).
M06RPR1.2	6.RP.A.2, 6.RP.A.3	Understand the concept of a unit rate in authentic contexts and use rate language in the context of a ratio relationship.	Identify unit rate with numbers 1-30 or -1 to -5.	<b>L:</b> Identify unit rates (1-5). <b>M:</b> Identify unit rates (6-10). <b>H:</b> Identify unit rates (11-30, -1 to -5).

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M06RPR1.3a	6.RP.A.3	Use ratio and rate reasoning to solve problems in authentic contexts that use equivalent ratios, unit rates, percents, and/or measurement units.	Identify missing value in input/output table.	<b>L:</b> Tables with unit rates 1-2. <b>M:</b> Table with unit rates 3-5. <b>H:</b> Table with unit rates 6-10.
M06STP1.2	6.DR.B.2	Collect and record data with technology to identify and describe the characteristics of numerical data sets using quantitative measures of center and variability.	Identify average score from a dataset.	<b>L:</b> Calculate average of 2 numbers (0-5). <b>M:</b> Calculate average of 3 numbers (6-10). <b>H:</b> Calculate average of 4 numbers (6-10).
M06STP1.3	6.DR.C.3	Analyze data representations and describe measures of center and variability of quantitative data using appropriate displays.	Identify mean of a given dataset when provided with a definition.	<b>L:</b> Identify mean of three numbers in 1-10 range. <b>M:</b> Identify mean of 5 numbers in 11-20 range. <b>H:</b> Identify mean of 7 numbers in 21-40 range.

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M06STP2.5	6.DR.D.4	Interpret quantitative measures of center to describe differences between groups from data collected to answer investigative questions.	Interpret data in picture, bar, and line graphs to determine the number of observations, identify units, and find the median to describe differences between groups.	<p><b>L:</b> Identify the number of observations (1-10) in picture graphs with three entries. Identify the units used in picture graphs (1-10). Identify the median of 2-3 numbers in the 1-10 range.</p> <p><b>M:</b> Identify the number of observations (1-20) in picture or bar graphs with 4-5 entries. Identify the units used in bar graphs (11-20). Identify the median of 4-5 numbers in the 11-20 range.</p> <p><b>H:</b> Identify the number of observations (1-40) in bar or line graphs with 6-8 entries. Identify the units used in line graphs (21-40). Identify the median of 6-7 numbers in the 21-40 range.</p>
M06TNS1.1	6.NS.A.1, 6.NS.B.3	Represent, interpret, and compute quotients of fractions to solve problems in authentic contexts involving division of fractions by fractions.	Use verbal and/or graphic models to solve problems involving addition and subtraction of whole numbers 0-40 and fractions $\frac{1}{2}$ , $\frac{1}{4}$ , $\frac{1}{3}$ , $\frac{1}{8}$ .	<p><b>L:</b> Add numbers 0-10 and <math>\frac{1}{2}</math>.</p> <p><b>M:</b> Add and subtract to/from numbers 11-30, and <math>\frac{1}{4}</math>.</p> <p><b>H:</b> Add and subtract to/from numbers 31-40, and fractions <math>\frac{1}{3}</math> and <math>\frac{1}{8}</math>.</p>

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M06TNS2.2	6.NS.B.2	Fluently divide multi-digit numbers using accurate, efficient, and flexible strategies and algorithms based on place value and properties of operations.	Use visual or verbal models to divide whole numbers up to 40 by 2, 5, or 10.	<p><b>L:</b> Divide whole numbers up to 20 by 2 using visual models (e.g., counters or groups).</p> <p><b>M:</b> Divide whole numbers up to 40 by 5 or 10 using arrays, area models, or verbal strategies.</p> <p><b>H:</b> Solve word problems involving fair sharing or grouping where division results in 0.5 or 0.25 using labeled visuals.</p>
M06TNS2.4	6.NS.B.4	Determine greatest common factors and least common multiples using a variety of strategies. Apply the distributive property to express a sum of two whole numbers 1-100 with a common factor as a multiple of a sum of two whole numbers with no common factor.	Identify the greatest common factor (GCF) when provided with a table of factors for 1-30.	<p><b>L:</b> Identify GCF of numbers 1-10.</p> <p><b>M:</b> Identify GCF of numbers 12-20.</p> <p><b>H:</b> Identify GCF of numbers 21-30.</p>

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M06TNS3.5	6.NS.C.5	Understand that positive and negative numbers are used together to describe quantities having opposite directions or values. Use positive and negative numbers to represent quantities in authentic contexts, explaining the meaning of zero in each situation.	Use visual and/or verbal models to solve real-world problems involving above/below zero (+/-1 to +/-10) using degrees, inches, feet, yards, meters, or miles.	<b>L:</b> Solve problems involving numbers +/- 1-3. <b>M:</b> Solve problems involving +/- 4-7. <b>H:</b> Solve problems involving +/- 8-10.



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M06TNS3.6a	6.NS.C.6	Represent a rational number as a point on the number line. Extend number line diagrams and coordinate axes to represent points on the line and in the coordinate plane with negative number coordinates.	Identify and represent rational numbers, including positive and negative values, fractions, and decimals, on number lines and coordinate planes.	<p><b>L:</b> Identify numbers the same distance from zero (<math>\pm 1</math> to <math>\pm 3</math>) on a number line. Find Y when given X and verbal directions in the first and second quadrants of a coordinate plane. Locate <math>\frac{1}{2}</math> and 0.5 on a number line between 0-10.</p> <p><b>M:</b> Identify numbers the same distance from zero (<math>\pm 4</math> to <math>\pm 7</math>) on a number line. Find a point using verbal directions in the first and second quadrants of a coordinate plane. Locate <math>\frac{1}{4}</math> and 0.25 on a number line between 11-20.</p> <p><b>H:</b> Identify numbers the same distance from zero (<math>\pm 8</math> to <math>\pm 10</math>) on a number line. Find a point using given coordinates in the first and second quadrants of a coordinate plane. Locate <math>\frac{1}{3}</math> and <math>\frac{1}{8}</math> on a number line between 21-40.</p>

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M06TNS3.7a	6.NS.C.7	Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. Write, interpret, and explain statements of order for rational numbers and absolute value in authentic applications.	Use a number line to compare and order rational numbers, including absolute values, and interpret inequalities in authentic contexts.	<b>L:</b> Compare numbers 0-20 on a number line using $<$ , $>$ , $=$ . Identify the absolute value of numbers $\pm 1$ to $\pm 3$ . <b>M:</b> Compare numbers 21-50 on a number line using $<$ , $>$ , $=$ . Identify the absolute value of numbers $\pm 4$ to $\pm 7$ . <b>H:</b> Compare numbers 51-80 on a number line using $<$ , $>$ , $=$ . Identify the absolute value of numbers $\pm 8$ to $\pm 10$ .

Standards not Essentialized:

Please refer to Oregon's published content standards for the full description and context of these codes.

6.AEE.A.1      6.DR.A.1      6.NS.C.8

6.AEE.B.5