



Smarter Balanced Construct Relevant Vocabulary for Mathematics

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“Construct relevant vocabulary” refers to any mathematics term that students should know because it is essential to the construct of the content area. As such, these terms should be part of instruction.

These are words that may appear in assessment stems or options on the Smarter Balanced Assessment even though the EDL Core Vocabularies in Reading, Mathematics, Science, and Social Studies might identify these terms as above grade level for general use. Because these terms are part of mathematics instruction in the classroom, they are considered construct relevant and thus allowable for this use.

The following list of “construct relevant vocabulary” was compiled by the Oregon Department of Education using information provided by Smarter Balanced Mathematics Leads in the Item Specifications. This list

- is not intended to be a default vocabulary curriculum; instead, the list of terms is intended as an instructional resource to ensure that teachers remember to embed these terms into their instruction.
- includes words that will not be glossed.
- is a working document. It is neither “finished” nor is it all-inclusive.

Note: Some words are not repeated in subsequent grades because it is assumed students are familiar with them because they have been part of instruction in previous grades.

Smarter Balanced Construct Relevant Vocabulary for Mathematics

Grade 3

Target A: multiply, divide, array, liquid volume, mass, equation, product, quotient, grams, kilograms, liters

Target B: divide, equation, multiply, factor, equal, operation, product, quotient, expression

Target C: equation, multiply, divide, product, quotient, factor

Target D: equation, multiply, divide, factor, product, quotient, subtract, add, addend, sum, difference, estimation, estimate, rounding, patterns

Target E: round to the nearest, add, subtract, sum, difference, multiply, place value, addend

Target F: equal, denominator, numerator, less than, greater than, number line

Target G: grams (g), kilograms (kg), liters (L), estimate, time, time intervals, minute, hour, measure, liquid volume, mass, standard units, metric

Target H: scaled bar graph, scaled picture graph, line plot

Target I: unit square, area, square unit, plane figure, square centimeter, square meter, square inch, square feet

Target J: perimeter, quadrilateral, rectangle, area, polygon, plane figure

Target K: divide, equal areas, rhombus, rectangle, circle, triangle, pentagon, hexagon, quadrilateral, parallelogram

Grade 4

Target A: remainder, sum, difference, quotient, product, equation, times, as much, times as many, equation

Target B: whole number, prime composite, factor, factor pair, multiple

Target C: pattern

Target D: nearest ten, nearest hundred, nearest thousand, nearest ten thousand, nearest hundred thousand, ones, tens, hundreds, thousands, ten thousands, hundred thousands, millions

Target E: sum, difference, product, expression, equation, equal, partial product, quotient, partial quotient, remainder multiple

Target F: fraction, equivalent, divide, equal to, greater than, less than, digits, numerator, denominator

Target G: equation, expression, equal, fraction, model, product, numerator

Target H: equivalent, equal, decimal, kilometers, meters, centimeters, kilograms, grams, liters, milliliters, length, mass, volume, number line, fraction, denominator, equation, expression

Target I: equivalent, mass, volume, interval, area, perimeter, square units

Target J: line plot, data set, interval, fractions, unit fractions, numerator, denominator, sum, difference, add, subtract

Target K: protractor, angle, ray, intersect, one-degree angle, vertex, ray

Target L: point, ray, angle, line, line segment, parallel, perpendicular, right, obtuse, acute, sides, polygon, triangle, quadrilateral, pentagon, hexagon, octagon, right triangle, line of symmetry, greater than, less than, equal to

Smarter Balanced Construct Relevant Vocabulary for Mathematics

Grade 5

Target A: sum, quotient, factor, dividend, divisor

Target B: coordinates, ordered pairs, pattern, sequence

Target C: round, digit, value, greater than, less than, equal to, equivalent, expression, expanded form, hundredths, tenths, thousandths, word form

Target D: array, area model, equation, quotient, product, factor, divisor, dividend, remainder

Target E: equivalent fractions, denominators, numerators, mixed numbers

Target F: fraction, equivalent, denominator, numerator, sum, difference, product, mixed number

Target G: mass, weight, length, time, kilometer, meter, centimeter, kilogram, gram, liter, milliliter, inch, foot, yard, mile, ounce, pound, cup, pint, quart, gallon, hour, minute, second

Target H: line plot, table, measurement, data set, interval, unit fraction, mixed number

Target I: area array, right rectangular prism, associative property, cube, volume, length, width

Target J: origin, coordinate plane, coordinate system, coordinate pair, x-coordinate, y-coordinate, first quadrant, point, x-axis, y-axis, ordered pair

Target K: right, acute, obtuse, line segments, parallel, perpendicular, symmetrical, line of symmetry

Grade 6

Target A: ratio, unit rate, unit price, ordered pairs

Target B: fraction, quotient, product

Target C: sum, difference, product, quotient, common factor, greatest common factor, common multiple, least common multiple, distributive property

Target D: positive, negative, integer, absolute value, coordinate, ordered pair, coordinate grid/plane, quadrant, number line, relative position, magnitude

Target E: sum, product, quotient, difference, negative, term, factor, coefficient, expression, algebraic expression, numerical expression, order of operations, distributive property, associative property, commutative property

Target F: variable, equation, inequality, solution, solution set

Target G: variable, equation, inequality, dependent variable, independent variable, relation

Target H: coordinate, ordered pair, coordinate plane, compose/decompose, vertices, right triangle, unit fraction, edge length, area, surface area, volume, nets, faces, edges, vertices

Target I: variation(variability), interquartile range, range, mean absolute deviation, center, spread, mean, median, outliers, shape (pertaining to statistics such as gap, cluster, peak, skew, bell curve and uniform distribution)

Target J: variability, interquartile range, range, mean absolute deviation, outliers, center, spread, mean, median, shape (pertaining to statistics such as gap, cluster, peak, skew, bell curve, and uniform distribution)

Smarter Balanced Construct Relevant Vocabulary for Mathematics

Grade 7

Target A: proportional relationship, ration, unit rate, constant of proportionality, origin, percent increase, percent decrease, percent error

Target B: rational numbers, absolute value, positive, negative, additive inverse, sum, difference, terminating decimal, repeating decimal, integer

Target C: sum, difference, factor, rational coefficient, linear expression, distributive property of multiplication, associative property of addition/multiplication, commutative property of addition/multiplication

Target D: rational number, equation, numeric expression, inequality, variable, constant, solution, solution set, distributive property of multiplication over addition, commutative property of addition/multiplication, associative property of addition/multiplication, additive/multiplicative identity, additive/multiplicative inverse

Target E: scale drawing, scale, scale factor, ratio, proportion, polygon, triangle (right, acute, obtuse, equilateral, isosceles, scalene), quadrilateral, trapezoid, parallelogram, cube, right-rectangular prism, right-rectangular pyramid, square pyramid, cone, cylinder, plane, perpendicular, parallel, base of a three-dimensional figure, horizontal slice, vertical slice

Target F: area, circumference, pi, circle, radius, diameter, supplementary angles, complementary angles, vertical angles, adjacent angles, linear pairs of angles, volume, surface area, triangles, quadrilateral, square, rectangle, parallelogram, trapezoid, cubes, right prisms

Target G: random sample, representative sample, inference, validity, variation, data sets, prediction

Target H: numerical data distribution, center, variability, random sample, comparative inference, mean, median, mean absolute deviation, range, interquartile range

Target I: single event, compound event, probability model, tree diagram, outcome, frequencies

Smarter Balanced Construct Relevant Vocabulary for Mathematics

Grade 8

Target A: rational number, irrational number, repeating decimal, terminating decimal, square root, pi

Target B: rational number, irrational number, scientific notation, decimal notation, exponent, power, base, radical, square root, cube root, perfect square, perfect cube, exponent

Target C: proportional relationship, unit rate, slope, y-intercept, similar triangles, origin, coordinate plane, ordered pairs

Target D: linear equation, y-intercept, slope, standard form, intersection, system, solution, coefficient, constant, ordered pair, x-coordinate, y-coordinate

Target E: function, relation, linear, nonlinear, ordered pairs, coordinate grid, rate of change, y-intercept, x-intercept, slope

Target F: function, slope, y-intercept, linear, nonlinear, rate of change, increasing, decreasing, constant, interval, relation

Target G: angle, transformation, translation, translate, rotation, rotate, reflection, reflect, dilation, dilate, line segment, similar, congruent, parallel, transversal, exterior angle, interior angle, angle-angle criterion, scale factor, vertical angles, adjacent angle, supplementary angles, complementary angles

Target H: Pythagorean Theorem, leg, hypotenuse, right triangle, base

Target I: volume, cylinder, cone, sphere, radius, diameter, area, base, pi

Target J: cluster, data, frequency, initial value, line of best fit, trend line, linear extrapolation, linear association, negative association, outlier, positive association, rate of change, relative frequency, scale, scatter plot, slope, two-way relative frequency table, variable, x-axis, y-axis, x-intercept, y-intercept

Smarter Balanced Construct Relevant Vocabulary for Mathematics

High School

Target A: exponent, radical, rational exponent

Target B: rational number, irrational number, real number

Target C: square units, cubic units, unit conversion, axis scale

Target D: expression, factor, difference of squares, difference of cubes, sum of cubes, quadratic expression

Target E: monomial, binomial, trinomial, polynomial, maximum value, minimum value, zero (of a function)

Target F: terms, factors, coefficients, monomials, binomials, trinomials, polynomials, exponents, expressions, distribute, distributive property, sum, difference, product, like terms

Target G: inequality, exponential, quadratic, simple rational, or exponential

Target H: radical, rational, real, solution

Target I: quadratic formula, factoring quadratic equations, completing the square

Target J: linear inequality, system of equations, system of inequalities, polynomial function, rational function, absolute value function, exponential function, logarithmic function, coordinate plane (or coordinate grid), half-plane, open half-plane, closed half-plane

Target K: domain, range, function, input, output, sequence, relation, ordered pair(s)

Target L: x-intercept, y-intercept, interval, increasing interval, decreasing interval, relative maximum, relative minimum, symmetry, axis of symmetry, end behavior of a graph, limit, periodicity, average rate of change

Target M: quadratic, square root, cube root, piecewise-defined, polynomial, exponential, logarithmic, x-intercept, y-intercept, interval, relative maximum, relative minimum, symmetry, axis of symmetry, end behavior of a graph, limit, periodicity

Target N: function(s), quantity, quantities, explicit, recursive, arithmetic sequence, geometric sequence, input, output, ordered pairs

Target O: trigonometry, trigonometric ratio, right triangle, sine, cosine, tangent, side, Pythagorean Theorem

Target P: mean, median, interquartile range, outlier, standard deviation