

Alaska Mathematics Standards Vocabulary Word List Grade 4

Operations and Algebraic Thinking

add	To combine; put together two or more quantities.
addend	Any number being added.
additive comparison	Problems that ask how much more (or less) one amount is than another.
area	The measure, in square units, of the inside of a plane figure.
area model	A model of multiplication that shows each place value product.
common factor	Any common factor of two or more numbers.
common multiple	Any common multiple of two or more numbers.
compatible numbers	Numbers that are easy to compute mentally and are close in value to the actual numbers. Compatible numbers can be used when estimating.
compose	To put together smaller numbers to make larger numbers.
composite number	A number greater than 0 that has more than two different factors.
counting number	A whole number that can be used to count a set of objects. Counting numbers do not include 0. (e.g., 1, 2, 3, 4...)
decompose	To separate a number into 2 or more parts.
difference	The amount that remains after one quantity is subtracted from another.
digit	Any of the symbols 0, 1, 2, 3, 4, 5, 6, 7, 8, or 9. (also known as base-ten numerals)
divide	To separate into equal groups and find the number in each group or the number of groups.
dividend	A number that is divided by another number.
divisible	A number is divisible by another number if the quotient is a counting number without a remainder.
divisor	The number by which another number is divided.
equal	Having the same value.

Operations and Algebraic Thinking

equation	A mathematical sentence with an equal sign. The amount on one side of the equal sign has the same value as the amount on the other side.
estimate	A number close to an exact amount. An estimate tells <i>about</i> how much or <i>about</i> how many.
evaluate	To find the value of a mathematical expression.
expression	A mathematical phrase without an equal sign.
fact family	A group of related facts that use the same numbers. (also known as related facts)
factor	The whole numbers that are multiplied to get a product.
factor pairs	A set of two whole numbers that, when multiplied, will result in a given product.
inverse operations	Operations that undo each other.
multiple	The product of a whole number and any other whole number.
multiplicative comparison	Compare by asking or telling how many times more one amount is than another. e.g., 3 times as many as
multiply	The operation of repeated addition of the same number.
number name	A way of using words to write a number. (also known as word form)
Order of Operations	A set of rules that tells the order in which to compute.
parentheses	Used in mathematics as grouping symbols for operations. When simplifying an expression, the operations within the parentheses are performed first.
partial product	A method of multiplying in which the value of each digit in a factor is multiplied separately, and then the partial products are added together.
partial quotient	A method of dividing in which multiples of the divisor are subtracted from the dividend, and then the partial quotients are added together.
partitive division	A division problem where the number of objects in each group is unknown.
pattern	A repeating or growing sequence. An ordered set of numbers or shapes arranged according to a rule.
period	In a large number, periods are groups of 3 digits separated by commas or spaces.
prime number	A whole number greater than 0 that has exactly two different factors, 1 and itself.
product	The answer to a multiplication problem.

Operations and Algebraic Thinking

Properties of Addition	Additive Identity Property of 0 (zero) number.	Adding zero to a given number gives a sum identical to the given $3 + 0 = 3$
	Associative Property of Addition $(2 + 3) + 4 = 2 + (3 + 4)$	Changing the grouping of 3 or more addends does not change the sum.
	Commutative Property of Addition $4 = 3 + 4 + 1$	Changing the order of the addends does not change the sum. $1 + 3 + 4 = 3 + 4 + 1$
Properties of Multiplication		
Associative Property of Multiplication	Changing the grouping of three or more factors does not change the product.	
$(2 \times 4) \times 5 = 2 \times (4 \times 5)$		
Commutative Property of Multiplication Changing the order of the factors does not change the product.		
$1 \times 4 \times 6 = 6 \times 1 \times 4$		
Distributive Property of Multiplication When one of the factors of a product is a sum, multiplying each addend before adding does not change the product.		
$3 \times (4 + 5) = 3 \times 4 + 3 \times 5$		
	Multiplicative Identity Property of 1 factor.	Multiplying a factor by one gives a product identical to the given $1 \times 6 = 6$
	Zero Property of Multiplication	The product of a factor and zero is 0. $2 \times 0 = 0$

Operations and Algebraic Thinking

quotative division	A division problem where the number of groups is unknown.
quotient	The answer to a division problem.
reasonableness	An answer that is based on good number sense.
regroup	To rearrange the formation of a group.
related facts	Related addition and subtraction facts or related multiplication and division facts. (also known as fact family)
remainder	The amount left over when one number is divided by another.
repeated subtraction	Subtracting equal groups to find the total amount of groups.
sequence	A set of numbers arranged in a special order or pattern.
simplest form	When a fraction is expressed with the fewest possible pieces, it is in simplest form. (also known as lowest terms)
simplify	To express a fraction in its simplest form.
subtract	An operation that gives the difference between two numbers. Subtraction can be used to compare two numbers, or to find out how much is left after some is taken away.
sum	The answer to an addition problem.
term	A component of a sequence. A term in a sentence is any number in that sequence.
variable	A letter or symbol that represents a number.
word form	A way of using words to write a number. (Also known as number name)
whole numbers	Whole numbers are 0 and the counting numbers 1, 2, 3, 4, 5, 6, and so on.

Numbers and Operations in Base Ten

algorithm	A step-by-step method for computing.
area model	A model of multiplication that shows each place value product.
array	An arrangement of objects in equal rows.
base-ten numeral form	A common way of writing a number using digits. The value of a numeral depends on where it appears in the number. (also known as standard form)
base-ten numerals	Any of the symbols 0, 1, 2, 3, 4, 5, 6, 7, 8, or 9. The symbols can represent any amount based on a place value
system of grouping by tens. (also known as digits)	
compare	To decide if one number is greater than, less than, or equal to another number.
divide	To separate into equal groups and find the number in each group or the number of groups.
dividend	A number that is divided by another number.
divisible	A number is divisible by another number if the quotient is a counting number without a remainder.
divisor	The number by which another number is divided.
equivalent decimals	Decimals that have the same value.
estimate	A number close to an exact amount. An estimate tells <i>about</i> how much or <i>about</i> how many.
expanded form	A way to write numbers that shows the place value of each digit.
greater than	Greater than is used to compare two numbers when the first number is larger than the second number.
hundreds	The value of a digit that is the third position from the right when describing whole number place value.
hundredth	One of the equal parts when a whole is divided into 100 equal parts.
hundredths	In the decimal numeration system, hundredths is the name of the next place to the right of tenths.
less than	Less than is used to compare two numbers when the first number is smaller than the second number.
multiple	The product of a whole number and any other whole number.

Numbers and Operations in Base Ten

ones	The value of a digit that is farthest to the right when describing whole number place value.
place value	The value of the place of a digit in a number.
partitive division	A division problem where the number of objects in each group is unknown.
quotative division	A division problem where the number of groups is unknown.
quotient	The answer to a division problem.
round a whole number	To find the nearest ten, hundred, thousand, (and so on).
tens	The value of a digit that is the second position from the right when describing whole number place value.
tenth	One of the equal parts when a whole is divided into 10 equal parts.
tenths	In the decimal numeration, tenths is the name of the place to the right of the decimal point.
thousands	The value of a digit that is the fourth position from the right when describing whole number place value.
time interval	A duration of a segment of time. (also known as elapsed time)
ton	A customary unit of weight. 1 ton (T) = 2,000 pounds. A metric ton (t) is a unit of mass equal to 1,000 kilograms (about 2,200 pounds).

Numbers and Operations - Fractions

benchmark	A known size or amount that can be used as a reference to help understand a different size or amount. A benchmark can be used to estimate measurement.
benchmark fractions	Fractions that are commonly used for estimation. A benchmark fraction helps you compare two fractions.
common denominator	For two or more fractions, a common denominator is a common multiple of the denominators.
common factor	Any common factor of two or more numbers.
common multiple	Any common multiple of two or more numbers.
common numerator	For two or more fractions, a common numerator is a common multiple of the numerators.
compare	To decide if one number is greater than, less than, or equal to another number.
decimal fraction	A fractional number with a denominator of 10 or a power of 10. It can be written with a decimal point.
decimal point	A dot (.) separating the whole number from the fraction in the decimal notation.
denominator	The number written below the line in a fraction. It tells how many equal parts are in the whole.
equivalent fractions	Fractions that have the same value (e.g. $\frac{1}{2}$, $\frac{2}{4}$, and $\frac{4}{8}$ all have the same value).
fraction	A way to describe a part of a whole or a part of a group by using equal parts.
fraction bar	A bar that separates the numerator and the denominator.
fraction greater than one	A fraction with a numerator greater than its denominator.
fraction less than one	A fraction with a numerator less than its denominator.
greatest common factor	The highest number that divides exactly into two or more whole numbers without a remainder.
improper fraction	A fraction in which the numerator is greater than the denominator, such as $\frac{5}{4}$.
like denominators	Denominators in two or more fractions that are the same.
like numerators	Numerators in two or more fractions that are the same.

Numbers and Operations - Fractions

lowest terms	When a fraction is expressed with the fewest possible pieces, it is in lowest terms. (also known as simplest form)
mixed number	A number that has a counting number and a fraction.
numerator	The number written above the line in a fraction. It tells how many equal parts are described in the fraction.
order	A sequence or arrangement of things. To order fractions, compare to fractions at a time.
unit fraction	A fraction that has 1 as its numerator. A unit fraction names 1 equal part of a whole.
unlike denominators	Denominators that are not equal.
unlike numerators	Numerators that are not equal.
whole	All of an object, a group of objects, shape, or quantity.

Measurement and Data

a.m.	A time between 12:00 midnight and 12:00 noon.
angle measure	The measure of the size of an angle. It tells how far one side is turned from the other side. A one degree angle turns through $\frac{1}{360}$ of a full circle.
area	The measure, in square units, of the inside of a plane figure.
bar model	A model that uses bars to represent known and unknown quantities and the relationship between these quantities.
capacity	Capacity refers to the amount of liquid a container can hold.
centimeter	A metric unit of length equal to 0.01 of a meter. $100 \text{ cm} = 1 \text{ m}$
classify	To sort into categories or to arrange into groups by attributes.
clockwise	The same direction that the hands on a clock move.
counterclockwise	The opposite direction that the hands move on a clock.
conversion	A change in the form of a measurement without a change in the size or amount. (e.g., $1 \text{ meter} = 1.09 \text{ yards}$)
cup	A customary unit of capacity. $1 \text{ cup} = 8 \text{ fluid ounces}$.
customary system	A system of measurement used in the U.S. The system includes units for measuring length, capacity, and weight.
data	A collection of information gathered for a purpose. Data may be in the form of either words or numbers.
day	The length of time it takes the Earth to make a complete rotation. $24 \text{ hours} = 1 \text{ day}$.
decimal	A number with one or more digits to the right of a decimal point.
decimeter	A metric unit of length. $1 \text{ decimeter} = 0.1 \text{ meter}$, $10 \text{ decimeters} = 1 \text{ meter}$.
degree	A unit for measuring angles. It is based on dividing one complete circle into 360 equal parts.
diameter	Any straight line segment that passes through the center of the circle and whose endpoints lie on the circle.
elapsed time	The amount of time that has passed. (also known as time interval)

Measurement and Data

fluid ounce	A customary unit of capacity. 8 fluid ounces = 1 cup
foot	A customary unit of length. 1 foot = 12 inches.
formula	A general mathematical rule that is written as an equation.
gallon	A customary unit of capacity. 1 gallon = 4 quarts.
gram	The standard unit of mass in the metric system. 1,000 grams = 1 kilogram.
half gallon	A customary unit of capacity. $\frac{1}{2}$ gallon = 2 quarts.
height	A perpendicular line segment from the base to the top of the figure.
hour	A unit of time. 1 hour = 60 minutes 24 hours = 1 day
inch	A customary unit of length. 12 inches = 1 foot
interval	The distance between two points.
kilogram	A metric unit of mass equal to 1000 grams.
kilometer	A metric unit of length equal to 1000 meters.
length	How long something is. The distance from one point to another. Length is measured in units such as inches, feet, centimeters, etc. One dimension of a two- or three- dimensional figure.
line plot	A diagram showing frequency of data on a number line.
liter	The basic unit of capacity in the metric system. 1 liter = 1,000 milliliters.
mass	The amount of matter in an object. Usually measured by comparing with an object of known mass. While gravity influences weight, it does not affect mass.
meter	A standard unit of length in the metric system.
metric system	A system of measurement based on tens. The basic unit of capacity is the liter. The basic unit of length is the meter. The basic unit of mass is the gram.
mile	A customary unit of length. 1 mile = 5, 280 feet.
milliliter	A metric unit of capacity. 1,000 milliliters = 1 liter.
millimeter	A metric unit of length. 1,000 millimeters = 1 meter.
minute (min)	A unit used to measure a short amount of time; there are 60 minutes in one hour.
month	A length of time equal to 28, 30, or 31 days. 12 months = 1 year.

Measurement and Data

number line	A diagram that represents numbers as points on a line.
obtuse angle	An angle with a measure greater than 90° but less than 180° .
obtuse triangle	A triangle that contains 1 angle with a measure greater than 90° (obtuse angle) and 2 acute angles.
ounce	A customary unit of weight equal to one sixteenth of a pound. 16 ounces = 1 pound
p.m.	The time between 12:00 noon and 12:00 midnight.
perimeter	The distance around the outside of a figure.
pint	A customary unit of capacity. 1 pint = 2 cups
point	The exact location in space represented by a dot.
pound	A customary unit of weight. 1 pound = 16 ounces.
protractor	A tool used to measure and draw angles.
quart	A customary unit of capacity. 1 quart = 2 pints or 1 quart = 4 cups
second (sec)	A unit used to measure a very short amount of time: there are 60 seconds in one minute.
square unit	A unit, such as square centimeter or square inch, used to measure area.
standard form	The common or usual way of writing a number using digits. (also known as base-ten numeral form)
straight angle	An angle that measures exactly 180° .
table	A set of data arranged in rows and columns.
Venn Diagram	A drawing with circles or rings to show how sets of objects are related.
volume (liquid)	The number of cubic units it takes to fill a figure.
week	There are seven days in a week: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, and Saturday.
weight	The measure of how heavy something is.
width	One dimension of a two- or three- dimensional figure.
yard (yd)	A customary unit of length. 1 yard = 3 feet or 36 inches.
year	The length of time it takes the Earth to revolve around the sun. 12 months = 1 year, 365 days = 1 year, 366 days = 1 leap year.

Geometry

acute angle	An angle with a measure less than 90° .
acute triangle	A triangle with no angle measuring 90° or more.
angle	Two rays that share an endpoint.
arc	Part of a circle's curve between any two of its points.
circle	A plane figure with all points the same distance from a fixed point called a center.
congruent	Having exactly the same shape and size.
diagonal	A line that goes through vertices of a polygon that are not next to each other.
endpoint	A point at either end of a line segment, or a point at one end of a ray.
equiangular triangle	A triangle with all equal angles (60°).
equilateral triangle	A triangle with all sides the same length.
hexagon	A polygon with 6 sides.
horizontal	Parallel to the horizon. Horizontal lines go from left to right.
intersecting lines	Lines that cross at a point.
isosceles triangle	A triangle that has exactly 2 equal sides.
line	A set of connected points continuing without end in both directions.
line of symmetry	A line that divides a figure into two congruent halves that are mirror images of each other.
line segment	A part of a line with two endpoints.
line-symmetric figure	A figure that can be folded in half and its two parts match exactly.
line symmetry	What a figure has if it can be folded in half and its two parts match exactly.

Geometry

obtuse angle	An angle with a measure greater than 90° but less than 180° .
octagon	A polygon with 8 sides.
parallel lines	Lines that are always the same distance apart. They do not intersect.
parallelogram	A quadrilateral with 2 pairs of parallel and congruent sides.
pentagon	A polygon with 5 sides.
perpendicular lines	Two intersecting lines that form right angles.
plane	Flat, 2-dimensional surface
polygon	A closed plane figure made by line segments.
prism	A solid figure with identical bases, whose sides are parallelograms.
quadrilateral	A polygon with 4 sides.
ray	A part of a line that has one end point and goes on forever in one direction.
rectangle	A quadrilateral with 2 pairs of congruent, parallel sides and 4 right angles.
regular polygon	A polygon with all sides the same length and all angles the same measure.
rhombus	A quadrilateral with all 4 sides equal in length.
right angle	An angle that forms a square corner.
right triangle	A triangle that has one 90° angle.
scalene triangle	A triangle that has no equal sides.
square	A parallelogram with 4 equal angles AND 4 equal sides.
trapezoid	A quadrilateral with 1 pair of parallel sides and 1 pair of sides that are not parallel.
triangle	A polygon with 3 sides and 3 angles.
two-dimensional figure	A plane, flat figure that has length and width.
vertex (plural - vertices)	The point at which two line segments, lines, or rays meet to form an angle.
vertical	Perpendicular to the horizon. Vertical lines go up and down.

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