Reference Tables

Table of Measures

Length/Area/Volume

Metric	Customary
1 millimeter (mm) = 0.001 meter (m)	1 foot (ft) = 12 inches (in.)
1 centimeter (cm) = 0.01 meter	1 yard (yd) = 36 inches
1 decimeter (dm) = 0.1 meter	1 yard = 3 feet
1 dekameter (dam) = 10 meters	1 mile (mi) = 5,280 feet
1 hectometer (hm) = 100 meters	1 mile = 1,760 yards
1 kilometer (km) = 1,000 meters	1 acre = 4,840 square yards
1 hectare (ha) = 1,000 square meters (m^2)	1 acre = 43,560 square feet
1 square centimeter = 1 sq cm A metric unit for measuring area. It is the area of a square that is 1 centimeter on each side.	1 acre = $\frac{1}{640}$ square mile
1 cubic centimeter = 1 cu cm A unit for measuring volume. It is the volume of a cube with each edge 1 centimeter long.	1 square inch = 1 sq in. A customary unit for measuring area. It is the area of a square that is 1 inch on each side.
	1 cubic inch = 1 cu in. A unit for measuring volume. It is the volume of a cube with each edge 1 inch long.

Capacity

1 milliliter (mL) = 0.001 liter (L)	1 teaspoon (tsp) = $\frac{1}{6}$ fluid ounce (fl oz)
1 centiliter (cL) = 0.01 liter	1 tablespoon (tbsp) = $\frac{1}{2}$ fluid ounce
1 deciliter (dL) = 0.1 liter	1 cup (c) = 8 fluid ounces
1 dekaliter (daL) = 10 liters	1 pint (pt) = 2 cups
1 hectoliter (hL) = 100 liters	1 quart (qt) = 2 pints
1 kiloliter (kL) = 1,000 liters	1 gallon (gal) = 4 quarts

Mass	Weight
1 milligram (mg) = 0.001 gram (g)	1 pound (lb) = 16 ounces
1 centigram (cg) = 0.01 gram	1 ton (T) = 2,000 pounds
1 decigram (dg) = 0.1 gram	
1 dekagram (dag) = 10 grams	
1 hectogram (hg) = 100 grams	
1 kilogram (kg) = 1,000 grams	
1 metric ton = 1,000 kilograms	

Volume/Capacity/Mass for Water

1 cubic centimeter = 1 milliliter = 1 gram

1,000 cubic centimeters = 1 liter = 1 kilogram

Table of Units of Time

Time

1 minute (min) = 60 seconds (sec)
1 hour (hr) = 60 minutes
1 day = 24 hours
1 week (wk) = 7 days
1 month is about 30 days
1 year (yr) = 12 months (mo)
or about 52 weeks

1 year = 365 days
1 leap year = 366 days
1 decade = 10 years
1 century = 100 years
1 millennium = 1,000 years

Table of Formulas

Perimeter

Polygon	P = sum of the lengths of the sides
Rectangle	$P = 2(l + w)$ or $P = 2l + 2w$
Square	$P = 4s$

Area

Rectangle	$A = l \cdot w$
Square	$A = s \cdot s$ or $A = s^2$

Volume of a Rectangular Prism

$V = lwh$ or $V = Bh$
(where B is the area of the base of the prism)

Properties of Operations

Associative Property of Addition

$(a + b) + c = a + (b + c)$ $\quad (2 + 5) + 3 = 2 + (5 + 3)$

Commutative Property of Addition

$a + b = b + a$ $\quad 4 + 6 = 6 + 4$

Additive Identity Property of 0

$a + 0 = 0 + a = a$ $\quad 3 + 0 = 0 + 3 = 3$

Associative Property of Multiplication

$(a \cdot b) \cdot c = a \cdot (b \cdot c)$ $\quad (3 \cdot 5) \cdot 7 = 3 \cdot (5 \cdot 7)$

Commutative Property of Multiplication

$a \cdot b = b \cdot a$ $\quad 6 \cdot 3 = 3 \cdot 6$

Multiplicative Identity Property of 1

$a \cdot 1 = 1 \cdot a = a$ $\quad 8 \cdot 1 = 1 \cdot 8 = 8$

Multiplicative Inverse

For every $a \neq 0$ there exists $\frac{1}{a}$ so that $a \cdot \frac{1}{a} = \frac{1}{a} \cdot a = 1$.

For $a = 5$, $5 \cdot \frac{1}{5} = \frac{1}{5} \cdot 5 = 1$.

Distributive Property of Multiplication over Addition

$a \cdot (b + c) = (a \cdot b) + (a \cdot c)$ $\quad 2 \cdot (4 + 3) = (2 \cdot 4) + (2 \cdot 3)$

Order of Operations

Step 1 Perform operations inside parentheses.

Step 2 Simplify powers.*

Step 3 Multiply and divide from left to right.

Step 4 Add and subtract from left to right.

*Grade 5 does not include simplifying expressions with exponents.