

Conversion Factors

Length		
Multiply	By	To obtain
Miles	1.60935	Kilometers
	1,760	Yards
	5,280	Feet
	63,360	Inches
Meters	0.00062137	Miles
	1.0936	Yards
	3.28088	Feet
	39.37	Inches
	100	Centimeters
Yards	0.001	Kilometers
	0.9144	Meters
	0.00056818	Miles
Feet	3.0	Feet
	36	Inches
	0.3048	Meters
	0.00018939	Miles
Inches	0.33333	Yards
	12	Inches
	0.08333	Feet
	0.027778	Yards
	0.000015783	Miles
	2.54	Centimeters
Area		
Square miles	4,014,489,600	Square inches
	27,878,400	Square feet
	3,097,600	Square yards
	640	Acres
	259	Hectares
Acres	208.71	Square feet
	0.404687	Hectares
	0.0015625	Square miles
	4,840	Square yards
	43,560	Square feet
Square yards	4,047	Square meters
	0.83613	
	0.0000003228	Square miles
	0.0002066	Acres
	9	Square feet
Square feet	1,296	Square inches
	0.092903	Square meters
	0.00000003587	Square miles
	0.000022957	Acres
	0.11111	Square yards
Square inches	144	Square inches
	0.000000002491	Square miles
	6.45163	Square centimeters
	0.0000001594	Acres
	0.0007716	Square yards
	0.006944	Square feet
Volume		
Acre-feet	325,851	U.S. gallons
	43,560	Cubic feet
	1,613.3	Cubic yards
	1,233.49	Cubic meters
Cubic yards	27	Cubic feet
	46,656	Cubic inches
	0.00061983	Acre-feet
	0.76456	Cubic meters
Cubic feet	1,728	Cubic inches
	7.4805	U.S. gallons
	28.317	Liters
	0.037037	Cubic yards
	0.000022957	Acre-feet

Conversion Factors (continued)

Volume (continued)		
Multiply	By	To obtain
U.S. gallons	231	Cubic inches
	3.78543	Liters
	0.13368	Cubic feet
	0.0000307	Acre-feet
	16.3872	Cubic centimeters
Cubic inches	0.004329	U.S. gallons
	0.0005787	Cubic feet
Discharge		
Cubic feet per second ^a	448.8	U.S. gallons per minute
	60	Cubic feet per minute
	3,600	Cubic feet per hour
	86,400	Cubic feet per day
	723.9669	Acre-feet per year
	1.9835	Acre-feet per day
	0.9917	Acre-inches per hour
	50	Miner's inch in Idaho, Kansas, Nebraska, South Dakota, North Dakota, New Mexico, Utah, Washington, southern California (customary)
	40	Miner's inch in Arizona, Montana, Oregon, Nevada, and California (statutory)
	38.4	Miner's inch in Colorado
	0.028317	Cubic meters per second
	1.699	Cubic meters per minute
	101.941	Cubic meters per hour
	2,446.58	Cubic meters per day
	28.317	Liters per second
Million gallons per day	1.547	Cubic feet per second ^a
	3.07	Acre-feet per day
Gallons per minute	2.629	Cubic meters per minute
	0.06309	Liters per second
	3.7854	Liters per minute
Velocity		
Feet per second	0.68	Miles per hour
	1.097	Kilometers per hour
	30.48	Centimeters per second
Inches per hour	2.540	Centimeters per hour
	0.3048	Meters per year
Acceleration		
Feet per second per second	0.3048	Meters per second per second
Weight, Mass		
Pounds, avoirdupois	0.4536	Kilograms
	16	Ounces
	7,000	Grains
	1.21528	Pounds, troy
Kilograms	1,000	Grams
	15,432	Grains
	2.2046	Pounds, avoirdupois
Tons (2,000 pounds)	907.185	Kilograms

Conversion Factors (continued)

Density		
Multiply	By	To obtain
Pounds per cubic foot	16.0185 0.0160185	Kilograms per cubic meter Grams per cubic centimeter
Pressure		
Atmosphere, at sea level	76.0 29.92 33.90 14.70	Centimeters of mercury Inches of mercury Feet of water Pounds per square inch
Pounds per square inch	0.070307 2.308	Kilograms per square centimeter Feet of water
Pounds per square foot	4.88243	Kilograms per square meter
Feet of water column (at 20 °C)	2.246 0.03041 0.4333	Centimeters of mercury column Kilograms per square centimeter Pounds per square inch
Angular Distance		
Degrees	60 3,600 0.01745	Minutes Seconds Radians
Power		
Horsepower	33,000 550 745.7 0.7457 1.014	Foot-pounds per minute Foot-pounds per second Watts Kilowatts Horsepower (metric)
Horsepower (metric)	75	Kilogram-meters per second
Work		
British thermal units	778 1055	Foot-pounds Joules
Seepage		
Cubic feet per square foot per day	304.8	Liters per square meter per day
Viscosity		
Dynamic viscosity (pound second per square foot)	4.8824	Kilogram second per square meter
Kinematic viscosity (square feet per second)	0.092903	Square meters per second
Surface Tension		
Pounds per foot	1.4882	Kilograms per meter
Gas Constant		
Feet per degree F	0.5486	Meters per degree Celsius

NOTES:

- 1 ft³/s falling 8.81 feet = 1 horsepower.
- 1 ft³/s falling 10.0 feet = 1.135 horsepower.
- 1 ft³/s falling 11.0 feet = 1 horsepower at 80-percent efficiency.
- 1 ft³/s flowing for 1 year will cover 1 square mile to a depth of 1.131 feet, or 13.572 inches.
- 1 inch depth of water on 1 square mile = 2,323,200 cubic feet = 0.0737 ft³/s for 1 year.

*The cubic foot per second is also commonly referred to as the second-foot.