

PQ1HO6 NAME _____

DATE _____

MEASUREMENT CHART

PROPERTY	GENERAL MEANING	INSTRUMENT (HOW GOTTEN)	METRIC UNITS ENGLISH UNITS
LENGTH	point to point straight	Ruler	Meter (m), Centimeter (cm), km inches ("), feet ('), yards (yd), miles (m)
AREA	2 dimensional space	Ruler (Length times Width), Formula	square meter (m ²), centimeter squared acre, square feet, square miles, square inches
VOLUME	3 dimensional space how much space it takes up	Ruler (Length times Width times Height)	cubic centimeter (cc), meters cubed (m ³) cubic inches, cubic feet
	how much liquid it holds or displaces (capacity)	Liquid container, or displacement/overflow (subtract)	liters (l), milliliters (ml)= 1 cubic centimeter ounces (oz), pints, quarts, gallons
MASS	amount of matter	Balance with known masses	grams (g), kilograms (kg), centigrams (cg) slugs
WEIGHT and FORCE/PRESSURE	force of gravity on object push/pull	Scale, spring	newtons (n), dynes (d) ounces, pounds (lb), tons
TEMPERATURE	average heat per molecule	Thermometer	degrees Celsius, degrees Kelvin (Celsius + 273) degrees Fahrenheit
DENSITY	mass per volume, how tightly packed	MASS divided by VOLUME	grams per cubic centimeter
SPEED	distance per time rate of travel	DISTANCE divided by TIME	kilometers per hour (kph), meters per second (mps) miles per hour (mph), feet per second (fps)
ACCELERATION	rate of speed increase	change in speed divided by TIME	meters per second per second feet per second per second
ENERGY/WORK	force times distance, energy output	force times distance, heat output	joules (j), calories (c), kiloCalories (C) ElectronVolts(eV), FootPounds(ft-lb), Kilowatt hour (kW-h), ergs (e).
PRESSURE	Force per Area		lbs per sq in, Pascals, mm Hg, atmospheres, torr

METRIC PREFIXES	NAME	MULTIPLIER	PLACE	EXPONENT
	exa	E	10^{18}	= 1,000,000,000,000,000,000
	penta	P	10^{15}	= 1,000,000,000,000,000
	TERA		1,000,000,000,000	trillion +12
	GIGA		1,000,000,000	billion +9
	MEGA		1,000,000	million +6
	KILO		1000	thousand +3
	HECTO		100	hundred +2
	DECA		10	ten +1
	—		1	one +0
	DECI		.1 or 1/10	tenth -1
	CENTI		.01 or 1/100	hundreth -2
	MILLI		.001 or 1/1000	thousandth -3
	MICRO		.000001 or 1/1000000	millionth -6
	NANO		.000000001 or 1/1000000000	billionth -9
	PICO		.0000000000001 or 1/1000000000000	trillionth -12
	femto	f	10^{-15}	= 0.000,000,000,000,0001
	atto	a	10^{-18}	= 0.000,000,000,000,000,0001

Move decimal to left by change in levels

Move decimal to right by change in levels

MASS: 1 kg= 2.21 pounds on Earth, 1 lb= .45 kg , 1 gram =0.035 ounces, 1 ounce = 28 grams, 16 ounces = 1lb

WEIGHT (FORCE): 1 Newton = 0.225 lbs, 1 lb = 4.45 Newtons, 1 Newton = 100000 dynes, 1 kg = 9.8 Newtons, 1 Newton = 0.102 kg, 1N =3.57 oz

LENGTH: 12 in = 1 ft, 3 ft = 1 yd, 5280 ft = 1 mile, 1 in = 2.54 cm, 1 foot = 30 cm, 1 yard = 0.9 meters, 1 mile = 1.6 kilometer, 1 kilometer = 0.6 miles, 1 meter = 3.3 feet, 1 meter =39.37 inches, 1 meter = 1.09 yards, 1cm = 0. 4 inches, 1mm = 0.04 inches

VOLUME: 6 ounce = 1 teaspoon, 1 ounce = 30 ml, 1 ml = 0.03 ounces, 32 ounces = 1 quart, 2 pints = 1 quart , 4 quarts = 1 gallon, 1 quart = 0.95 liters, 1 liter = 1.06 quarts, 1 gallon = 3.8 liters,1 cubic meter = 35 cubic feet, 1 cubic foot = .03 cubic meters, 1 cubic centimeter = 1 milliliter WATER: 1 gram has volume of 1 milliliter.

TEMPERATURE: degrees Kelvin = Celsius +273, Celsius=(Fahrenheit-32)*5/9, Fahrenheit = (9/5*Celsius)+32

SPEED: 1 mile per hour = .44704 meters/sec TIME: 1 hour = 60 minutes = 3600 seconds