Basic TGM (Tim, Grafut, Maz)

TGM is a system of measure named for its three primary units: the Tim (the unit of time), the Grafut (the unit of length), and the Maz (the unit of mass). The system is consistently dozenal and covers all fields of human endeavor. Designed to be easy and convenient both for the layman and for the scientist, TGM unites in itself the unique virtues of traditional systems, like the foot-pound system of the English-speaking world, and of SI and other French metric derivatives.

Part of TGM's appeal is its concomitant way of writing very large and very small quantities. While modern systems utilize "scientific notation," this is typically lengthy and bulky, and cannot be read at a glance (e.g., 4.567×10^{15}). TGM encourages users instead to simply *prefix* the power of the dozen, either superscripted if it is a positive power, or subscripted if a negative. So the above dozenized becomes $^{12}3;683$; a very tiny quantity might be $_{12}3;683$. This is at once more compact and more readable than the current practice.

Below, the basic units of the TGM system, along with many others of practical size, are displayed with their traditional and decimal metric counterparts. The full, detailed system can be obtained from the dozenal societies, or from many different places on the Internet.

Length, Area, Volume

Grafut		0;↋783 ft	0;366↋ m
Gravinch	$_1$Gf	0;↋783 in	2;569↊ cm
Gravyard	3 Gf	0;↋783 yd	0;↊789 m
Gravmile	3 ^{3}Gf	0;↋51↊ mi	1;6488 km
Gravklick	2 ^{3}Gf	0;7752 mi	1;0319 km
Surf		0;↋362 ft^2	0;1070 m^2
	^{4}Sf	0;5461 acres	0;2213 ha
Volm		6;9↋47 gal	21;↊254 L
Pintvol	3 $_2$Vm	1;17↊9 pt	0;6567 L
Cupvol	1;6 $_2$Vm	1;17↊9 cp	0;3293 L
Supvol	$_3$Vm	1;0182 tbs	12;↋624 mL
Sipvol	4 $_4$Vm	1;0182 tsp	4;↋↊09 mL

Time, Motion, and Frequency

Tim			0;21 s
Tick	Tm		0;21 s
Unctic	^{1}Tm		2;1 s
Bictic	^{2}Tm		21 s
Block	^{3}Tm	5 min	210 s
Hour	^{4}Tm	1 hr	50 min
	$_3$Tm		0;1257 ms
Vlos		3;9874 mph	6;16↊↊ kph
Sp. Lim.	15 Vl	54;9248 mph	88;2946 kph
St. Grav.	1 Gee	28;2280 ft/s^2	9;9879 m/s^2
Freq	$^1/_{\text{Tm}}$		5;9153 Hz
	5 $_3$Fq		1 RPM

Mass, Force, and Density

Maz		48;↋↊72 lb	21;↊254 kg
	^{2}Mz	4;130↋ ton	3;8804 t
Oumz	2 $_3$Mz	1;07↋8 oz	25;↋048 g
Poundz	3 $_2$Mz	16;↋↋64 oz	0;6567 kg
Denz		52;5146 lb/ft^3	6↋3;↋7↋7 kg/m^3
Mag		108↊;2↋62 pdl	191;7151 N
		49;0154 lbf	21;↊38↊ kgf
Werg		47;37↊7 lbf·ft	62;↋96↋N·m
Prem		0;506↋ lbf/in^2	1818;6↋↋0 Pa
Atmoz	2↋ Pm	12;8836 lbf/in^2	4↊900;4916 Pa
		25;↋89 inHg	535;56↋ mmHg
Pov		0;6↋45 hp	2↋↋;↊↊08 W

Temp., Elec., and Chemistry

Calg		0;0021 °F	0;0012 K
Decigree	^{2}Cg	0;21 °F	0.1 K
Tregree	^{3}Cg	2;1 °F	1;2497 K
Kur		Current	0;5↋47 A
		6 $_6$Kr	0;↋↋53 μA
Pel		Elec. Pot.	607;3167 V
		$_3$Pl	0;6073 V
		2 $_2$Pl	10;1263 V
Og		Resistance	1025;6860 Ω
Quel		Elec. Quant.	0;1048 C
		^{1}Ql	1;0487 C
Molz			21;↊254 kmol

Systematic Dozenal Nomenclature
At a Glance

Systematic Dozenal Nomenclature (SDN) is a system of referring to numbers, similar to what we do in decimal with words like "hundred," "thousand," "million," and so forth. When we count in twelves, we can't use these decimal terms; SDN provides a analogous, but superior, set of terms for dozenal. Using the internationally recognized and accepted number-word roots employed by the International Union of Pure and Applied Chemistry (IUPAC), and augmenting them with roots for "ten" and "eleven," SDN is a perfectly rational, coherent, and easy-to-learn system, requiring only twelve roots, two suffixes, and two particles.

Complete Set of SDN Prefixes

Value	Root	Multiplier	Pos. Power	Neg. Power
0	nil	nili	nilqua	nilcia
1	un	uni	unqua	uncia
2	bi	bina	biqua	bicia
3	tri	trina	triqua	tricia
4	quad	quadra	quadqua	quadcia
5	pent	penta	pentqua	pentcia
6	hex	hexa	hexqua	hexcia
7	sept	septa	septqua	septcia
8	oct	octa	octqua	octcia
9	enn	ennea	ennqua	enncia
↊	dec	deca	decqua	deccia
↋	lev	leva	levqua	levcia

The twelve roots are listed in the "Root" column; the multiplier forms are essentially the same as the roots with a vowel inserted, with only "quadra" varying even slightly beyond that. The suffixes are "-qua," for positive powers of the dozen, and "-cia," for negative powers of the dozen. The particles are "dit," for the so-called "decimal" point, separating the whole numbers from the fractional parts (usually written ;, but sometimes '); and "per," which is used to create fractional words.

SDN leaves most of our daily language about numbers substantially unchanged. A quadruped is still a quadruped, a pentagon is still a pentagon, and so forth. These words, and many others, are perfectly regular and orthodox SDN. SDN also, however, greatly expands the reach our number words can have.

The multipliers simply multiply what they are attached to by the number they indicate; for example, a "tricycle" is a "cycle" (wheel) multiplied by three, and a "hexacycle" is a "cycle" multiplied by six. These roots can be combined, without their multiplier prefixes, to form number words they same way that we combine digits to form numbers. In other words, use these in order according to place notation, the same way that you use digits. For example, for a hypothetical insect with 357 legs:

Three	Five	Seven
3	5	7
Tri	Pent	Septa

Yielding "tripentseptaped." What we often call an "eighteen-wheeler" (dozenal 16) is a "unhexacycle" ("un" + "hexa" + "cycle" = "1" + "6" + "wheeler").

The particles can be used the same way. Suppose you want a word for something that occurs twice a year; that is, every half year. One possibility is "nildithexennial," remembering that 0;6 ("zero dit six") is dozenal for one half. "Per" is used for fractions which don't fit well into uncials. E.g., $^{1}/_{7}$, which in uncials is 0;186↊35 repeating, can be simply "unpersepta." In other words, the "dit" stands in for ";" and the "per" for "/".

Finally, the power prefixes indicate powers of the dozen. We are all familiar with terms like "bicentennial," and some of us with more difficult terms like "sesquicentennial." These are decimal terms; but their dozenal analogues are easy. "100" is 10^2; so we use the *power prefix* with the root for "two": "bi" plus "qua." This gives us "biquennial." This can be combined with multiplier forms; for example, "quadrubiquennial" means "quad" times "biqua," for four biqua years. Similarly for the negative prefixes: a cell 0;000008 Grafut in diameter is 8 *hexcia*Grafut in diameter.

And this is SDN, a much more robust number nomenclature than our current one.