In the duodecimal divisions of a foot the different orders of units are related as follows :

1' (inch or prime)   is $\frac{1}{12}$ of a ft. or 1 in. linear measure.
1'' (second) or $\frac{1}{12}$ of $\frac{1}{12}$ is $\frac{1}{144}$ of a ft. or 1 in. square "
1''' (third) or $\frac{1}{12}$ of $\frac{1}{12}$ of $\frac{1}{12}$ is $\frac{1}{1728}$ of a ft. or 1 in. cubic "

TABLE.

12 Fourths ('''') ,	make	1 third,	1'''
12 Thirds	"	1 second,	1''
12 Seconds	"	1 prime,	1'
12 Primes	"	1 foot,	ft.

Cubic Measure.

A Cube is a solid, or body, having six equal square sides.

Solidity is the matter or space contained within the boundary surfaces of a solid.

Cubic Measure, also called Solid Measure, is used in computing the contents of solids, or bodies ; as timber, wood, stone, &c.

The unit is the solidity of a cube whose side is the unit of length. Thus the unit of cubic feet is a cube which measures 1 foot on each side ; the unit of cubic yards is 1 cubic yard, &c.

TABLE.

1728 Cubic Inches (cu. in.) make	1 Cubic Foot	cu. ft.
27 Cubic Feet	"	1 Cubic Yard,	cu. yd.
40 Cubic Feet of round timber or } 50 Cubic Feet of hewn do., make }	1 Ton or Load,	t.
16 Cubic Feet	"	1 Cord Foot,	cd. ft.
8 Cord Feet, or } 128 Cubic Feet }	"	1 Cord of Wood,	cd.
5 Cubic Feet	"	1 Barrel Bulk.
42 Cubic Feet of timber	"	1 Shipping Ton.

Notes.—1. A cubic yard of earth is called a load.

2. Railroad and transportion companies estimate light freight by the space it occupies, and heavy freight by weight.

3. In scaling or measuring timber for shipping or freighting, 1-5 of the solid contents of round timber is deducted for waste in hewing or sawing. Thus, a log that will make 40 feet of hewn or sawed timber, actually contains 50 cubic feet by measurement; but its market value is only equal to 40 cubic feet of hewn or sawed timber. Hence, the cubic contents of 40 feet of round and 50 feet of hewn timber, as estimated for market, are identical.