

## Weights and Measures

### *Pesos y Medidas*

The following is a tabulation of non-metric weights and measures used in Spanish-speaking countries. Tables of metric weights and measures may be found in almost any standard dictionary of the English and Spanish languages.

*Lo siguiente es una compilación de pesos y medidas no métricos que se emplea en los países Hispánicos. Se pueda encontrar una tabla de pesos y medidas métricas en cualquier diccionario de inglés o español.*

### Area

#### *Area*

A number of local measures of area are used in Spain and Latin America:

<i>almud</i> (Venezuela)	400 to 25,600 meters <sup>2</sup>
<i>área</i> (Venezuela)	555 meters <sup>2</sup>
<i>besana</i> (Cuba)	2,588.77 meters <sup>2</sup> (6.25 <i>cordeles</i> <sup>2</sup> )
<i>braza</i> (Panama)	2.79 meters <sup>2</sup>
<i>cabellería</i> (Costa Rica)	42.254 hectares
<i>cabellería</i> (Cuba)	13.420 hectares (324 <i>cordeles</i> <sup>2</sup> )
<i>cabellería</i> (Ecuador)	11.2896 hectares (16 <i>cuadras</i> <sup>2</sup> )
<i>cabellería</i> (El Salvador)	44.965 hectares (64 <i>manzanas</i> )
<i>cabellería</i> (Guatemala)	44.72 hectares (64 <i>manzanas</i> )
<i>cabellería</i> (Honduras)	45.027914 hectares
<i>cabellería</i> (Mexico)	42.7953 hectares (12 <i>fanegas</i> )
<i>cabellería</i> (Nicaragua)	45.158 hectares (64 <i>manzanas</i> )
<i>cabellería</i> (Santo Domingo)	75.46 hectares (1,200 <i>tareas</i> )
<i>cantero</i> (Ecuador)	441 meters <sup>2</sup>
<i>carga</i> (Venezuela)	1 hectare
<i>caró</i> (Santo Domingo)	1.293 hectares
<i>corral</i> (Latin America)	5,887 hectares
<i>cuadra</i> (Paraguay)	7,500 meters <sup>2</sup>
<i>cuadra</i> (Uruguay)	1.99 hectares
<i>cuadro</i> (Venez.-East)	0.64 to 1.0 hectares
<i>cuadro</i> (Venez.-West)	0.64-1.8 hectares
<i>cuartilla</i> (Venezuela)	100 to 2,500 meters <sup>2</sup>
<i>cuerdá</i> (Puerto Rico)	0.393 hectares (4 <i>parcelas</i> )
<i>estadal</i> (Nicaragua)	11.28 meters <sup>2</sup>
<i>estadal</i> (Spain)	11.182 meters <sup>2</sup>
<i>fanega</i> (Mexico)	3.5663 hectares
<i>fanegada</i> (Peru)	0.646 hectares
<i>fanegada</i> (Spain)	0.6426 hectares (576 <i>estadales</i> )
<i>fanegada</i> (Venezuela)	0.45 to 4 hectares
<i>labor</i>	71.685 hectares
<i>legua</i> (Venezuela)	1,600 to 2,500 hectares
<i>line</i> (Paraguay)	75.1 meters <sup>2</sup> (100 <i>varas</i> <sup>2</sup> )
<i>liño</i> (Paraguay)	75.1 meters <sup>2</sup> (100 <i>varas</i> <sup>2</sup> )
<i>litro</i> (Sucre, Venez.)	625 meters <sup>2</sup>

<i>manzana</i> (Argentina)	1 hectares
<i>manzana</i> (Costa Rica)	0.699 hectares (8 <i>solares</i> )
<i>manzana</i> (El Salvador)	0.70258 hectares (10,000 <i>varas</i> <sup>2</sup> )
<i>manzana</i> (Guatemala)	0.70 hectares (10,000 <i>varas</i> <sup>2</sup> )
<i>manzana</i> (Honduras)	0.697225 hectares (10,000 <i>varas</i> <sup>2</sup> )
<i>manzana</i> (Nicaragua)	0.744 hectares (10,000 <i>varas</i> <sup>2</sup> )
<i>medida</i> (Sucre, Venez.)	625 meters <sup>2</sup>
<i>medio</i> (Venezuela)	0.5 hectare
<i>parcela</i> (Puerto Rico)	982.6 meters <sup>2</sup>
<i>plaza</i> (Venezuela)	10 to 20 meters <sup>2</sup>
<i>roza</i> (Cuba)	0.746 hectares (18 <i>cordeles</i> <sup>2</sup> )
<i>roza</i> (Cuba)	0.719 hectares (10,000 <i>varas</i> <sup>2</sup> )
<i>sitio de ganado menor</i> (Mex)	1348.933 hectares (3,333 <i>varas</i> <sup>2</sup> )
<i>sitio de ganado mayor</i> (Mex)	1,755.61 hectares (5,000 <i>varas</i> <sup>2</sup> , 1 <i>legua</i> <sup>2</sup> )
<i>sitio de labor</i> (Mex)	1,755.61 hectares (1 <i>legua</i> <sup>2</sup> )
<i>solar</i> (Costa Rica)	873.62 meters <sup>2</sup> (1,250 <i>varas</i> <sup>2</sup> )
<i>solar</i> (Ecuador)	1,764 meters <sup>2</sup> (4 <i>canteros</i> )
<i>suerte</i> (Nicaragua)	1.41 hectares
<i>suerte</i> (Uruguay)	1,992 hectares (2,700 <i>cuadras</i> <sup>2</sup> )
<i>tahúlla</i> (Spain)	0.1118 hectares
<i>tarea</i> (Cuba)	69.03 meters <sup>2</sup>
<i>tarea</i> (El Salvador)	280 to 875 meters <sup>2</sup>
<i>tarea</i> (Santo Domingo)	628.8 meters <sup>2</sup>
<i>tarea</i> (Venezuela)	50 to 833 meters <sup>2</sup>
<i>tablón</i> (Venezuela)	0.6 to 1.0 hectares
<i>topo</i> (Peru)	0.349 hectares
<i>topo</i> (Peru, Cuzco)	0.272 hectares
<i>topo</i> (Peru, Puna)	0.461 hectares
<i>yugada</i> (Peru)	32.3 hectares (50 <i>fanegadas</i> )
<i>yugada</i> (Spain)	32.198 hectares

### Assay Values

#### *Medidas de Tenor*

The traditional measure of silver grade in the Viceroyalty of Peru was *marcos por cajón*. In modern day Bolivia and Peru the *cajón* is defined as 5,000 and 6,000 *libras* respectively, hence:

<i>marco por cajón</i> (Bolivia)	100 grams per tonne
<i>marco por cajón</i> (Peru)	83.333 grams per tonne

In Bolivia 1 *marco por cajón* is known as a *decimarco* (abbreviated D.M.). In Chile, precious metal grades were often measured as *diezmilésimos* defined as 0.001 grams metal per gram of ore (equivalent to 1,000 grams per tonne or 1 part per thousand).

**Length**  
*Distancia*

<i>punto</i>	1/12 <i>línea</i>
<i>línea</i>	12 <i>puntos</i>
<i>pulgada</i>	12 <i>líneas</i>
<i>cuarta</i> <sup>1</sup>	8 <i>pulgadas</i>
<i>pie or tercia</i>	12 <i>pulgadas</i>
<i>vara</i>	3 <i>pies</i>
<i>yarda</i>	36 <i>pulgadas</i>
<i>braza</i>	2 <i>varas</i>
<i>estado or estadel</i>	2 <i>brazas</i>
<i>cuadra</i> <sup>2</sup>	75 <i>brazas</i>
<i>milla</i> <sup>3</sup>	5,000 <i>pies</i> , 1666 2/3 <i>varas</i>

<sup>1</sup> Except Guatemala, Nicaragua, and Spain where a *cuarta* is 9 *pulgadas*.

<sup>2</sup> Except Colombia where 100 *brazas* is a *cuadra* and in Ecuador, Paraguay, and Uruguay where 100 *varas* is a *cuadra*.

<sup>3</sup> Except Nicaragua where a *milla* is 2,200 *varas*.

In Ecuador the *cuarta* is known as *cuarto* or *palma*. In Guatemala a *mecate* is 24 *varas*. In Spain a *dedo* is 1/12 of a *palma* and 1/28 of a *vara*.

The length of a *vara* varies according to country:

Argentina	0.8667 meters
Bolivia	0.866 meters
Brazil	1.111 meters
Chile	0.8359 meters
Colombia	0.8 meters
Costa Rica	0.836 meters
Cuba	0.848 meters
Curaçao	0.8477 meters
Ecuador	0.84 meters
El Salvador	0.836 meters
Guatemala	0.8359 meters
Honduras	0.835 meters
Mexico	0.83800 meters
Nicaragua	0.84 meters
Panama	0.80 meters
Paraguay	0.8666 meters
Peru	0.8382 meters
Sao Tome & Principe	4.84 meters
Santo Domingo	0.836 meters
Spain	0.8359 meters
Spain (Burgos)	0.8359 meters
Uruguay	0.859 meters
Venezuela	0.838 meters

A *legua* is the distance covered by 5,000 footsteps or *pies*, equivalent to 5,000 to 5,572 meters depending on the legal definition of the *vara*. The *legua* is sometimes defined as 8,000 footsteps

or *pies*. The *legua* is also sometimes reckoned as the distance covered by horseback in one hour over level terrain. A day's ride on horseback is considered to cover 6 *leguas*. Legal definitions of the *legua* vary from country to country:

Argentina	6,000 <i>varas</i>	5.20 km
Chile	5,400 <i>varas</i>	4.51386 km
Colombia	6,250 <i>varas</i>	5 km
Cuba	5,000 <i>varas</i>	4.24 km
Ecuador		5 km
El Salvador		4 km
Guatemala	6,666.6667 <i>varas</i>	5.573 km
Honduras	5,000 <i>varas</i>	4.175 km
Mexico	5,000 <i>varas</i>	4.190 km
Paraguay	5,000 <i>varas</i>	4.333 km
Peru		5.556 km
Santo Domingo		5 km
Spain	6,666.667 <i>varas</i>	5.573 km
Spain (Medieval)	5,000 <i>varas</i>	4.1795 km
Uruguay	6,000 <i>varas</i>	5.154 km
Venezuela		5.565 km

Other measures of length are:

<i>cabulla</i> (Venezuela)	80 meters
<i>codo</i> (Spain)	0.418 meters
<i>cordel</i> (Cuba)	20.352 meters (24 <i>varas</i> )
<i>cordel</i> (Paraguay)	69.88 meters
<i>cuerda</i> (Paraguay)	69.88 meters
<i>línea</i> (Arg., Para.)	2 millimeters
<i>mecate</i> (Costa Rica)	20.064 meters (24 <i>varas</i> )
<i>ona</i> (Santo Domingo)	1.188 meters
<i>paso</i> (Spain)	1.39 meters
<i>sesma</i> (Spain)	13.93 centimeters
<i>tercia</i> (Costa Rica)	27.87 centimeters (1/3 <i>vara</i> )

## Volume

### *Volumén*

A *cajón* (*cargo* in Spain) is a cubic *vara*. In Mexico a *braza de piedra* is defined as a block of rock 2 by 4 by 1 *varas* in dimensions equivalent to 4.7078 cubic meters.

**Weight**  
*Peso*

<i>grano</i>	1/12 <i>tomín</i>
<i>tomín</i>	12 <i>granos</i>
<i>adarme</i>	3 <i>tomines</i>
<i>ochava</i>	2 <i>adarmes</i>
<i>onza</i>	8 <i>ochavas</i>
<i>marco</i>	8 <i>onzas</i>
<i>libra</i>	2 <i>marcos</i>
<i>botija</i>	12.5 <i>libras</i>
<i>arroba</i>	25 <i>libras</i>
<i>almud</i>	28 <i>libras</i>
<i>cuartilla</i>	50 <i>libras</i>
<i>tercio</i> <sup>1</sup>	80 <i>libras</i>
<i>quintal</i>	4 <i>arrobas</i>
<i>fanega</i> <sup>2</sup>	2 <i>quintales</i>
<i>carga</i> <sup>3</sup>	3 <i>quintales</i>
<i>peso</i>	20 <i>arrobas</i>
<i>tonelada</i>	20 <i>quintales</i>
<i>montón</i> <sup>4</sup>	3,000 <i>libras</i>
<i>cajón</i> <sup>5</sup>	5,000 <i>libras</i>

<sup>1</sup> Except Mexico where a *tercio* is 160 *libras*.

<sup>2</sup> Except El Salvador where a *fanega* is 24 *medios* or 432 to 720 *libra*, Nicaragua where a *fanega* is 3.5 *quintales*, and Uruguay where a *fanega métrica* is 100 kg.

<sup>3</sup> Except Costa Rica where a *carga* is 350 *libras* and El Salvador and Nicaragua where a *carga* is 2 *quintales*. In Mexico a *carga métrica* is 140 kilograms.

<sup>4</sup> In Mexico a *montón* varied from 15 to 32 *quintales*.

<sup>5</sup> Except in Chile where a *cajón* is 6,400 *libras* and Peru where a *cajón* is 6,000 *libras*.

In Bolivia the *libra* is also known as the *arratel*. In Colombia a *tonelada granadina* is 1,000 kilograms. In Ecuador the *quintal* is also known as the *media* and the *fanega* as the *mula*. In El Salvador a *medio* is 18 to 30 *libras*, a *carretada* or *tonelada corta* is a *tonelada* of 20 *quintales*, and the *carretada* is 3 *camionadas* (*toneladas*). In México a *tarea* is 4 *montónes* of 100 *quintales*. In Paraguay the *arroba* is called *arobe*. In Spain a *tonelada grande* is 2,240 *libras*. In some areas of Spain there were 12, 17, or 20 *onzas* to a *libra*. The weight of a *libra* varies from country to country:

Argentina	0.4594 kilograms
Brazil	0.4600 kilograms
Central America	0.4730943 kilograms
Chile	0.0460 kilograms
Colombia	0.5 kilograms
Costa Rica	0.460 kilograms
Cuba	0.507825 kilograms
Ecuador	0.460 kilograms
El Salvador	0.460 kilograms
Guatemala	0.460 kilograms
Honduras	0.460 kilograms
Mexico	0.46024634 kilograms
Nicaragua	0.460 or 0.46024 kilograms

Paraguay	0.459 kilograms
Peru	0.46009 kilograms
Santo Domingo	0.4536 kilograms
Spain	0.460093 kilograms
Uruguay	0.4594 or 0.4 kilograms
Venezuela	0.4609 kilograms

Other measures of weight are:

<i>almud</i> (Venezuela)	9 to 50 kilograms
<i>botijuela</i> (Venezuela)	5 kilograms
<i>bulto</i> (Venezuela)	18-80 kilograms
<i>cabulla</i> (Venezuela)	20 kilograms
<i>caja</i> (Nicaragua)	16 kilograms
<i>caja</i> (Venezuela)	18 to 63 kilograms
<i>cajón</i> (Bolivia)	2,300.4651 kilograms
<i>cajón</i> (Peru)	2,760.5581 kilograms
<i>carga</i> (Venezuela)	22 to 345 kilograms
<i>cotejo</i> (Venezuela)	5 kilograms
<i>cuadro</i> (Venezuela)	60 kilograms
<i>cuartilla</i> (Venezuela)	2 to 10 kilograms
<i>cuenta</i> (Venezuela)	10 to 50 kilograms
<i>barril</i> (Fr. Guiana)	100 kilograms
<i>fanega</i> (Venezuela)	46 to 400 kilograms
<i>lata</i> (Costa Rica)	453.1 grams
<i>litro</i> (Venezuela)	2.5 kilograms
<i>madeja</i> (Venezuela)	5 to 15 kilograms
<i>mancuerna</i> (Honduras)	1.4375 kilograms
<i>mancuerna</i> (Venezuela)	2 to 15 kilograms
<i>mara</i> (Venezuela)	50 to 200 kilograms
<i>mil</i> (Venezuela)	400 kilograms
<i>paca</i> (Venezuela)	50 kilograms
<i>palito</i> (Venezuela)	9 to 18 kilograms
<i>paquete</i> (Venezuela)	1.2 to 2 kilograms
<i>punto</i> (Venezuela)	600 kilograms
<i>quilate</i> (Colombia)	20 milligrams
<i>quintal métrico</i>	100 kilograms
<i>saco</i> (Venezuela)	20 to 60 kilograms
<i>tercio</i> (Venezuela)	40 kilograms
<i>vara</i> (Venezuela)	250 grams

Typical loads (*cargas*) for transporting ore are:

man	2 arrobas
rawhide oresack	2-4 arrobas
fiber oresack	5-6 arrobas
mule	8-14 arrobas
wagon	120 arrobas

**Coinage - Gold***Moneda - Oro*

<i>grano</i>	<i>1/4 quilate</i>
<i>quilate</i>	<i>4 granos</i>
<i>real</i>	<i>6 granos</i>
<i>tomín</i>	<i>3 quilates, 2 tomines</i>
<i>peso</i>	<i>4 tomines</i>
<i>castellano or dineral</i>	<i>2 pesos</i>
<i>marco</i>	<i>50 castellanos or dinerales</i>
<i>libra</i>	<i>2 marcos</i>

The *peso de oro común* was a unit of account consisting of 8 *reales* or *tomines* each of 34 *marevedís*.

**Coinage -Silver***Moneda - Plata*

<i>grano</i>	<i>1/12 tomín</i>
<i>tomín</i>	<i>12 granos</i>
<i>dinero</i>	<i>2 tomines</i>
<i>adarme</i>	<i>3 tomines</i>
<i>ochava</i>	<i>2 adarmes</i>
<i>onza</i>	<i>8 ochavas</i>
<i>marco or dineral</i>	<i>8 onzas</i>

The Spanish *peso* was a silver coin of about 25 grams in weight.