**Length Conversion information**

**Inches - Millimeters**

* **1 inch** in length is equal to **25.4 mm**

|  |  |
| --- | --- |
| Formula | multiply the length value by 25.4 |

* **1 mm** in length is equal to **0.039 inch**

|  |  |
| --- | --- |
| Formula | Divide the length value by 25.4 |

**Feet - meters**

* **1 meter** in length is equal to **3.28 feet**

|  |  |
| --- | --- |
| Formula | for an approximate result, multiply the length value by 3.281 |

* **1 foot** in length is equal to **0.30 meter**

|  |  |
| --- | --- |
| Formula | for an approximate result, divide the length value by 3.281 |

**Yard -Meters**

* **1 meter** in length is equal **to 0.914 yards**

|  |  |
| --- | --- |
| Formula | for an approximate result, divide the length value by 1.094 |

* **1 yard** in length is equal to 1.093 **meters**

|  |  |
| --- | --- |
| Formula | for an approximate result, multiply the length value by 1.094 |

**Miles- kilometers**

* **I mile** in length is equal to **1.6 km**

|  |  |
| --- | --- |
| Formula | for an approximate result, multiply the length value by 1.609 |

* **1 km** in length is equal to **0.62 miles**

|  |  |
| --- | --- |
| Formula | for an approximate result, divide the length value by 1.609 |

**Area Conversion information**

**Square Inch – Square Millimeter**

* **1 square inch** in length is equal to **645.16 square millimeter**

|  |  |
| --- | --- |
| Formula | for an approximate result, multiply the area value by 645.2 |

* **1 square millimeter** in length is equal to 0.00155 **square inch**

|  |  |
| --- | --- |
| Formula | for an approximate result, divide the area value by 645.2 |

**Square Feet – Square Meter**

* **1 square feet** in length is equal to **0.092903 square meters**

|  |  |
| --- | --- |
| Formula | divide the area value by 10.764 |

* **1 square meter** in length is equal to **10.7639 square feet**

|  |  |
| --- | --- |
| Formula | Multiply the area value by 10.764 |

**Square Yard – Square meter**

* **1 square yard** in length is equal to 0.836127

|  |  |
| --- | --- |
| Formula | divide the area value by 1.196 |

* **1 square meter** in length is equal to **1.19599 yards**

|  |  |
| --- | --- |
| Formula | divide the multiply value by 1.196 |

**Acres – Hectares**

* **1 Acre** in length is equal to **0.404686 Hectares**

|  |  |
| --- | --- |
| Formula | divide the area value by 2.471 |

* **1 Hectare** in length is equal to **2.47105 Acres**

|  |  |
| --- | --- |
| Formula | multiply the area value by 2.471 |

**Square mile – Square Kilometer**

**1 Square mile** in length is equal to **2.58999 square km**

|  |  |
| --- | --- |
| Formula | multiply the area value by 2.59 |

* **1 Square Kilometer** in length is equal to **0.386102 square mile**

|  |  |
| --- | --- |
| Formula | divide the area value by 2.59 |

**volume Conversion information**

**Fluid Ounces – Millimeter**

* **1 fluid ounces** in length is equal to **29.5735 mm**

|  |  |
| --- | --- |
| Formula | for an approximate result, multiply the volume value by 29.574 |

* 1 millimeter is equal to 0.033814 fluid ounces

|  |  |
| --- | --- |
| Formula | for an approximate result, divide the volume value by 29.574 |

**Gallon – liters**

* **1 US liquid Gallon** Is equal to **3.78541 liters**

|  |  |
| --- | --- |
| Formula | for an approximate result, Multiply the volume value by 3.785 |

* **1 liter** is equal to **0.264172 US liquid Gallon**

|  |  |
| --- | --- |
| Formula | for an approximate result, divide the volume value by 3.785 |

**Cubic feet – Cubic meter**

* **1 cubic foot** is equal to **0.0283168 cubic meter**

|  |  |
| --- | --- |
| Formula | for an approximate result, divide the volume value by 35.315 |

* **1 cubic meter** is equal to **35.3147 cubic foot**

|  |  |
| --- | --- |
| Formula | for an approximate result, multiply the volume value by 35.315 |

**Cubic Yards – Cubic meters**

* **1 cubic yard** Is equal to **0.764555 cubic meters**

|  |  |
| --- | --- |
| Formula | divide the volume value by 1.308 |

* **1 cubic meter** is equal to **1.30795 cubic yard**

|  |  |
| --- | --- |
| Formula | multiply the volume value by 1.308 |

**Mass Conversion information**

**Ounces – Grams**

* **1 Ounce** Is equal to **28.3495 Grams**

|  |  |
| --- | --- |
| Formula | for an approximate result, Multiply the mass value by 28.35 |

* **1 gram** is equal to **0.035274 ounce**

|  |  |
| --- | --- |
| Formula | for an approximate result, divide the mass value by 28.35 |

**Pound – Kilograms**

* **1 pound** is equal to **0.453592 kilograms**

|  |  |
| --- | --- |
| Formula | for an approximate result, divide the mass value by 2.205 |

* **1 kilogram** is equal to **2.20462 pound**

|  |  |
| --- | --- |
| Formula | for an approximate result, multiply the mass value by 2.205 |

**Short tons (2000 lbs.) – Mega Grams**

* **1 Short ton** is equal to **0.907185 mega grams**

|  |  |
| --- | --- |
| Formula | for an approximate result, divide the mass value by 1.102 |

* **1 mega gram** is equal to **1.10231 US Short tons**

|  |  |
| --- | --- |
| Formula | for an approximate result, multiply the mass value by 1.102 |

**Temperature Conversion information**

**Celsius – Fahrenheit**

* **0 Celsius degrees is equal to 32 Fahrenheit**

|  |  |
| --- | --- |
| Formula | (0**°C** × 9/5) + 32 = 32**°F** |

* **0 Fahrenheit degrees Is equal to -17.7778 Celsius**

|  |  |
| --- | --- |
| Formula | (0**°F** − 32) × 5/9 = -17.78**°C** |

**System international SI system**

SI unit is an international system of measurements that are used universally in technical and scientific research to avoid the confusion with the units. Having a standard unit system is important because it helps the entire world to understand the measurements in one set of unit systems. Following is the table with base SI units:

**Metric system basics**

The simplicity of the metric [system](https://www.visionlearning.com/en/glossary/view/system/pop) stems from the fact that there is only one [unit](https://www.visionlearning.com/en/glossary/view/unit/pop) of measurement (or base unit) for each type of quantity measured (length, [mass](https://www.visionlearning.com/en/glossary/view/mass/pop), etc.). The three most common base units in the metric system are the meter, gram, and liter. The meter is a unit of length equal to 3.28 feet; the gram is a unit of mass equal to approximately 0.0022 pounds (about the mass of a paper clip); and the liter is a unit of [volume](https://www.visionlearning.com/en/glossary/view/volume/pop) equal to 1.05 quarts. So length, for example, is always measured in meters in the metric system; regardless of whether you are measuring the length of your finger or the length of the Nile River.

To simplify things, very large and very small objects are expressed as multiples of ten of the base [unit](https://www.visionlearning.com/en/glossary/view/unit/pop). For example, rather than saying that the Nile River is 6,650,000 meters long, we can say that it is 6,650 thousand-meters long. This would be done by adding the prefix "kilo" (meaning 1,000) to the base unit "meter" to give us 6,650 kilometers for the length of the Nile River. This is much simpler than the American [system](https://www.visionlearning.com/en/glossary/view/system/pop) of measurement, in which we have to remember inches, feet, miles, and many more units of measurement. Metric prefixes can be used with any base unit. For example, a kilometer is 1,000 meters, a kilogram is 1,000 grams, and a kiloliter is 1,000 liters. Six common prefixes used in the metric system are listed below.

| **Common Metric Prefixes** | **Unit Multiples** |
| --- | --- |
| **Table 1:** Common metric prefixes. | |
| kilo | 1,000 |
| hecto | 100 |
| deca | 10 |
| (base unit) | - |
| deci | 0.1 |
| centi | 0.01 |
| milli | 0.001 |

**Meter**

*This article is about the unit of length. For other uses of "metre" or "meter", see*[*Meter (disambiguation)*](https://en.wikipedia.org/wiki/Meter_(disambiguation))*.*

|  |  |
| --- | --- |
| **metre** | |
| [Metric seal.svg](https://en.wikipedia.org/wiki/File:Metric_seal.svg)  Seal of the International Bureau of Weights and Measures (BIPM) – Use measure (Greek: ΜΕΤΡΩ ΧΡΩ) | |
| **General information** | |
| [**Unit system**](https://en.wikipedia.org/wiki/System_of_measurement) | [SI](https://en.wikipedia.org/wiki/SI) |
| **Unit of** | [length](https://en.wikipedia.org/wiki/Length) |
| **Symbol** | m[[1]](https://en.wikipedia.org/wiki/Metre#cite_note-1) |
| **Conversions** | |
| 1 m[[1]](https://en.wikipedia.org/wiki/Metre#cite_note-1) *in ...* | *... is equal to ...* |
| [**SI units**](https://en.wikipedia.org/wiki/SI_units) | * 1000 [mm](https://en.wikipedia.org/wiki/Millimetre) * 0.001 [km](https://en.wikipedia.org/wiki/Kilometre) |
| [**Imperial**](https://en.wikipedia.org/wiki/Imperial_units)**/**[**US**](https://en.wikipedia.org/wiki/US_customary_units)**units** | * ≈ 1.0936 [yd](https://en.wikipedia.org/wiki/Yard) * ≈ 3.2808 [ft](https://en.wikipedia.org/wiki/Foot_(unit)) * ≈ 39.37 [in](https://en.wikipedia.org/wiki/Inch) |
| **Nautical units** | ≈ 0.00053996 [nmi](https://en.wikipedia.org/wiki/Nautical_mile" \o "Nautical mile) |

The **metre** ([British spelling](https://en.wikipedia.org/wiki/British_English)) or **meter** ([American spelling](https://en.wikipedia.org/wiki/American_English); [see spelling differences](https://en.wikipedia.org/wiki/American_and_British_English_spelling_differences#-re,_-er)) (from the French unit *mètre*, from the [Greek](https://en.wikipedia.org/wiki/Greek_language) noun μέτρον, "measure"), symbol **m**, is the primary unit of [length](https://en.wikipedia.org/wiki/Length) in the [International System of Units](https://en.wikipedia.org/wiki/International_System_of_Units) (SI), though its [prefixed forms](https://en.wikipedia.org/wiki/Metric_prefix) are also used relatively frequently.

The metre was originally defined in 1793 as one ten-millionth of the distance from the [equator](https://en.wikipedia.org/wiki/Equator) to the [North Pole](https://en.wikipedia.org/wiki/North_Pole) along a [great circle](https://en.wikipedia.org/wiki/Great_circle), so the [Earth's circumference](https://en.wikipedia.org/wiki/Earth%27s_circumference) is approximately 40000 km. In 1799, the metre was redefined in terms of a prototype metre bar (the actual bar used was changed in 1889). In 1960, the metre was redefined in terms of a certain number of wavelengths of a certain emission line of [krypton-86](https://en.wikipedia.org/wiki/Krypton-86). The current definition was adopted in 1983 and modified slightly in 2002 to clarify that the metre is a measure of [proper length](https://en.wikipedia.org/wiki/Proper_length). From 1983 until 2019, the metre was formally defined as the length of the path travelled by [light](https://en.wikipedia.org/wiki/Light) in a vacuum in 1/299792458 of a [second](https://en.wikipedia.org/wiki/Second). After the [2019 redefinition of the SI base units](https://en.wikipedia.org/wiki/2019_redefinition_of_the_SI_base_units), this definition was rephrased to include the definition of a second in terms of the caesium frequency Δ*ν*Cs

**US customary Units**

**United States customary units** form a system of [measurement units](https://en.wikipedia.org/wiki/Units_of_measurement) commonly used in the [United States](https://en.wikipedia.org/wiki/United_States) and [U.S. territories](https://en.wikipedia.org/wiki/Territories_of_the_United_States) since being standardized and adopted in 1832.[[1]](https://en.wikipedia.org/wiki/United_States_customary_units#cite_note-1) The **United States customary system** (**USCS** or **USC**) developed from [English units](https://en.wikipedia.org/wiki/English_units) which were in use in the [British Empire](https://en.wikipedia.org/wiki/British_Empire) before the U.S. became an independent country. The United Kingdom's system of measures was overhauled in 1824 to create the [imperial system](https://en.wikipedia.org/wiki/Imperial_system), which was officially adopted in 1826, changing the definitions of some of its units. Consequently, while many U.S. units are essentially similar to their imperial counterparts, there are significant [differences between the systems](https://en.wikipedia.org/wiki/Comparison_of_the_imperial_and_US_customary_measurement_systems).

The majority of U.S. customary units were redefined in terms of the [meter](https://en.wikipedia.org/wiki/Metre) and [kilogram](https://en.wikipedia.org/wiki/Kilogram) with the [Mendenhall Order](https://en.wikipedia.org/wiki/Mendenhall_Order) of 1893 and, in practice, for many years before.[[2]](https://en.wikipedia.org/wiki/United_States_customary_units#cite_note-Mendenhall-2) These definitions were refined by the [international yard and pound](https://en.wikipedia.org/wiki/International_yard_and_pound) agreement of 1959.[[3]](https://en.wikipedia.org/wiki/United_States_customary_units#cite_note-FR59-5442-3)

Americans use customary units in commercial activities, as well as for personal and social use. In science, medicine, many sectors of industry, and some government and military areas, metric units are used. The [International System of Units](https://en.wikipedia.org/wiki/International_System_of_Units) (SI), the modern form of the [metric system](https://en.wikipedia.org/wiki/Metric_system), is preferred for many uses by the U.S. [National Institute of Standards and Technology](https://en.wikipedia.org/wiki/National_Institute_of_Standards_and_Technology) (NIST).[[4]](https://en.wikipedia.org/wiki/United_States_customary_units#cite_note-4) For newer units of measure where there is no traditional customary unit, international units are used, sometimes mixed with customary units; for example, [electrical resistance](https://en.wikipedia.org/wiki/Electrical_resistance) of wire expressed in [ohms](https://en.wikipedia.org/wiki/Ohm) (SI) per thousand feet.

**Color Combination**