

Definition

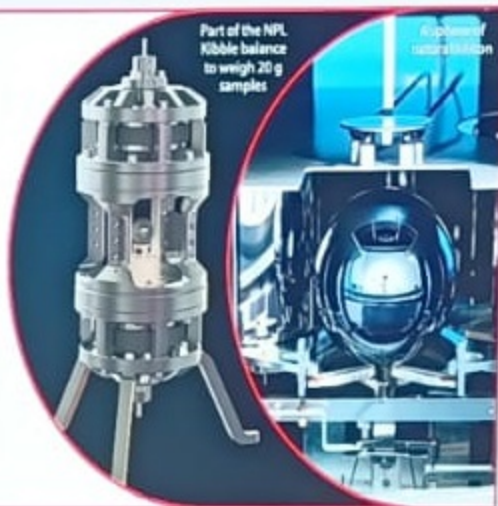
The SI base unit for mass, the kilogram, is defined in terms of three fundamental constants:

- h
- c
- Δ

We can make standard mass measurements in two ways, both of which rely on these three constants:

- (1) make a special spherical mass of silicon-28 atoms which we know has a mass of 1 kilogram because we have counted the atoms in it. This pure silicon object costs around a million pounds!
- (2) use a Kibble balance, which balances the gravitational force on an object placed inside it with force from an electromagnet. The force can then be very accurately determined by measuring current and voltage.

Both techniques require special laboratories and are used to make master mass standards which are used to check that scales and balances used throughout the world are working correctly.



SI UNIT

- The globally-agreed system of measurement units was formally named the 'International System of Units' (SI). The SI covers units for every type of measurement, but at the heart of the SI is a set of seven units known as the 'base units'.

kilogram (kg)	Unit of mass
metre (m)	Unit of length
second (s)	Unit of time
ampere (A)	Unit of electric current
kelvin (K)	Unit of thermodynamic temperature
mole (mol)	Unit of amount of substance
candela (cd)	Unit of luminous intensity



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World Metrology Day



Measurements supporting the global food system

20 May 2023

MIDDLE EAST CALIBRATION LAB LLC

The image shows a large digital display on a wall. At the top, the text 'World Metrology Day' is repeated three times, each accompanied by a small red logo. Below this, there are three identical panels. Each panel features a close-up of a laboratory scale with a colorful, multi-colored powder (red, yellow, green, blue) being weighed. Underneath each panel, the text 'Measurements supporting the global food system' is written in white. At the bottom of the display, there is a white banner with the text '20 May 2023' and the website 'www.meclab.com' repeated three times. Below this banner, the name 'MIDDLE EAST CALIBRATION LAB LLC' is displayed in large, bold, red capital letters.



World Metrology Day  World Metrology Day  World Metrology Day 



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