History of the SI system

The history of the metric system began a long time ago when people wanted to find a better way to measure things like length and weight. They realized that using decimal numbers would make it easier to work with these measurements. So, they came up with a system where everything is based on the number ten. This system became very popular in France and Europe and eventually spread to other parts of the world.

The metric system was officially introduced during the French Revolution in 1799. The old system of measurements was not very practical for trade, so they decided to replace it with a new system based on the kilogram and the meter. The meter was based on the dimensions of the Earth, and the kilogram was based on the mass of a volume of water of one litre (a cubic decimetre). They made special copies of these units out of platinum to use as standards for the next 90 years.

By the 1850s, France and many other countries in Europe had fully adopted the metric system. It made things much easier because everyone was using the same measurements.

In the middle of the 19th century, the famous physicist James Clerk Maxwell conceived a coherent system where a small number of units of measure were defined as base units, and all other units of measure, called derived units, were defined in terms of the base units. Maxwell proposed three base units for length, mass and time. But as science progressed, they needed more units, especially in the field of electromagnetism. They couldn't fit these new units into the existing system, so they had to make some changes.

In 1960, they created the International System of Units (SI), which is the system we use today. It has six base units: the meter, kilogram, second, ampere, kelvin, and candela. They also added more units that are derived from these base units. Later, they added also the mole.

Over time, they realized that the original kilogram standard was not very stable, so they worked on redefining some of the base units using constants of physics. In 2019, they finally succeeded in redefining the kilogram and other units, which meant they no longer needed physical copies as standards. This was a big achievement and allowed them to retire the old standard kilogram.