

Vocabulary Scientific Method/Measurement

1		accuracy		Accuracy is the correctness of a single measurement. The accuracy of a measurement is assessed by comparing the measurement with the true or accepted value, based on evidence independent of the measurement. The closeness of an average to a true value is referred to as "trueness".
2		conversion factor		A conversion factor is a fraction that relates one unit to another. Multiplying a measurement by a conversion factor changes the units of the measurement. For example, since 1 in = 2.54 cm, to convert 10 inches to centimeters, use the factor 1in / 2.54 cm
3		cubic centimeter	cm ³ , mL, ml	A measurement unit for volume equal to 1/1000 of a liter. Also called a milliliter.
4		denominator		Arithmetic. that term of a fraction, usually written under the line, that indicates the number of equal parts into which the unit is divided; divisor. Compare numerator . something shared or held in common; standard
5		derived units		Derived units are units constructed from the SI system's base units. For example, the SI unit for density is kg/m ³ , derived from the base units kg and m.
6		dimensional analysis		a method of mathematical analysis that focuses on the dimensions of length, mass, time, etc.,. It aims to simplify a problem by dealing only with essential parameters; a way of calculating with physical quantities in which units are included and treated in the same way as numbers
7		gram		A metric unit of mass, equal to 1/1000 of a kilogram. Kilograms are the base SI units for mass, not grams.
8		hypothesis	hypotheses.	A hypothesis is a conjecture designed to guide experimentation. Hypotheses are extremely useful in problem solving, and are essential in developing new theories.
9		kilogram	kg	SI unit for Mass`
10		liter		A metric unit of volume equal to 1000 ml or 1000 cm ³ . It is also approximately 1.056 liquid quarts, 0.908 dry quart, or 0.264 gallon.
11		mass		Mass is a measure of the tendency of an object to resist acceleration. It's harder to roll a tractor trailer than a roller skate; the tractor trailer has a far greater mass.
12		milliliter	ml, mL	1 one thousandths from a liter (0.001 L) There are exactly 1000 mL (milliliters) in the derived unit of measure liter. A mL is equavent to a cubim centimeter (cm ³)
13		numerator		Arithmetic. the term of a fraction, usually above the line, that indicates the number of equal parts that are to be added together; the dividend placed over a divisor
14		percentage error	percent error	The relative error times 100%.
15		precision	reproducibility	Precision is reproducibility. Saying "These measurements are precise" is the same as saying, "The same measurement was repeated several times, and the measurements were all very close to one another". Don't confuse precision with accuracy.

16	qualitative		A subjective measure such as hot coffee, cold day, too much. This measure has no number.
17	quantitative		an objective measure such as 2 cups of coffee, a temperature of 110°F, 3 tons of ice cream
18	quantity		A specified or indefinite number or amount.
19	reciprocal		a proportion that is inverse. 3 is the reciprocal of 1/3
20	rounding		When rounding, examine the last digit. This digit will be dropped and the preceding digit is rounded: 1. If it is less than 5, drop it and all the figures to the right of it. 2. If it is 5 or more than 5, increase by 1 the number to be rounded
21	SI units		The International System of Units (abbreviated SI from the French <i>Le Système international d'unités</i>) is the modern form of the metric system. It is the world's most widely used system of units, both in everyday commerce and in science. The older metric system included several groups of units. The SI was developed in 1960 from the old meter-kilogram-second (mks) system, rather than the centimeter-gram-second (cgs) system, , in turn, had a few variants. The SI introduced several newly named units. The SI is not static, but is a living set of standards by which units are created and definitions are modified through international agreement among many nations as the technology of measurement progresses. The system is nearly universally employed, and most countries do not even maintain official definitions of any other units. A notable exception is the United States of America, which still uses many old units in addition to SI. In the United Kingdom, conversion to metric units is government policy, but the transition is not yet complete. Those countries that still recognize non-SI units (e.g. the U.S. and UK) have redefined their traditional non-SI units in terms of SI units.
22	scientific method		A successful method of knowledge construction based on experimental testing of hypotheses.
23	scientific notation	exponential notation.	A system for reporting very small or very large numbers by writing the number as a decimal number between 1 and 10, multiplied by a power of 10. For example, 602,000,000,000,000,000,000 is written in scientific notation as 6.02×10^{23} . and 0.000323 is written in scientific notation as 3.23×10^{-4} .
24	significant digits	significant figure. significant digit	A convention for recording measurements. Measurements are rounded so that they contain only the digits up to and including the first uncertain digit, when the number is written in scientific notation.
25	theory	theories.	Theories are well-established explanations for experimental data. To be established, the theory is experimentally tested by many different investigators. Theories usually cannot be proven; a single contrary experiment can disprove a theory.
26	units		A dimension of measure such as meters, seconds, miles per hour.