

Measuring Up Metric

The Metric System: Using Prefixes With Important Base Units

A tremendous feature of the metric system is that once you learn the three **base units**, you can use the prefixes to **scale** them to whatever you need to measure.

These prefixes increase the base units by **factors** of 10.

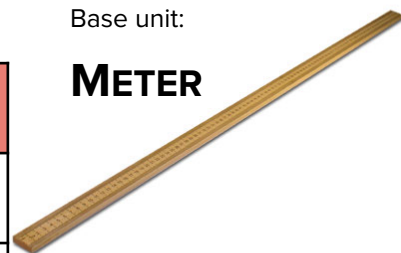
Base units can be used without prefixes.

These prefixes decrease the base units by **factors** of 10.

PREFIX	What it means
KILO-	× 1,000 (1,000 times greater)
HECTO-	× 100 (100 times greater)
DEKA-	× 10 (10 times greater)
no prefix	× 1 (standard base without change)
DECI-	× .1 (10 times smaller)
CENTI-	× .01 (100 times smaller)
MILLI-	× .001 (1,000 times smaller)

Base unit:

METER



Base unit:

LITER



Base unit:

GRAM



So let's see if you have this straight:



Circle the one that makes the most sense.



← **Meters** are helpful for measuring the height of a building,
but **centimeters** are better for measuring...

a book. a mountain.
bacteria.



← **Kilograms** are helpful for measuring the mass of a human,
but **grams** are better for measuring...

a dust speck. a whale.
the amount of salt in a recipe.



← **Liters** are helpful for measuring beverages,
but **milliliters** are better for measuring...

a tank of gasoline.
the Atlantic Ocean. a dose of cough syrup.