How to Learn
Basic Metric Measurement and Practices
In Less Than 5 Minutes!

COLOR KEYED for EASY UNDERSTANDING.

FREE Web Links with Videos for Hands-On Learning

•

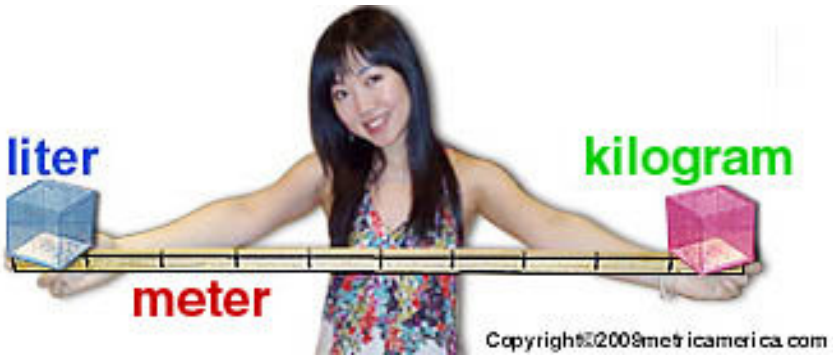
Instant Metric Conversion®©
with Tables to Compare

ENTERTAINING
METRIC REFERENCE MANUAL
FOR LEADERS, TEACHERS and STUDENTS
of ALL AGES from AROUND the WORLD

How to Understand Basic Metric Measurement for TRAVEL and ENJOYMENT!

COLOR KEYED for EASY LEARNING.

INSTANT METRIC eBook



FREE Web Support with Videos and Exams

Handy Reference Guide for

DECADES, CENTURIES and Into The MILLENNIUM

•

A Lot of Fun Too!

DETAILS PAGE 39

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Powerful Metric Compendium for Learning Through Functional Association.

People's Guide to
Personal Growth and Achievement
with Guaranteed Understanding.

***Required Fee *US*$12.95**

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Preface

INSTANT METRIC eBook

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It has been said that the unique simplicity of measuring in metric dimensions is found in the properties of Length, Volume and Mass and to each, a close relationship to the Length of a meter (also spelled metre).

Successful understanding by definition is likely in the way we use metric measurement and how benefits can be derived from its' application. ***INSTANT METRIC eBook*** is a printed, web based and digitized publication with web support that is not necessarily a prepared instruction for rocket-science. However, it is equally as valuable a combined asset in measuring for everyday use as it is in science, aerospace, industry, medicine, chemistry and anywhere else that precision and accuracy are required for measurement.

Metric dimensions in military applications and space exploration are universal and well known. The internet, an American invention does not exist without it.	

Useful VIDEO Link http://metricamerica.com/ametricanman.htm

Whether in space, on the Moon, Mars or Earth, metric measurements of Length, Volume and Mass remain constant in the absence of gravity. Understandably, where "mass" is referred to herein, one may associate it with the *"weight"* of something naturally because of how it feels to them personally. But *"weight"* is really gravitational force attracted to Earth, whereas, the "mass" of something doesn't rely on gravity and is constant in metric measurement regardless of where it is used. The same may apply to feeling the "volume or capacity" of something in metric dimensions when it might be associated with aspects of *"liquid"* values.

EVERYDAY METRIC MEASUREMENT
RULES, PRACTICES and PRONUNCIATION GUIDE
SEE PAGES 78 to 79

TABLE OF CONTENTS with *USEFUL WEB SUPPORT LINKS*

EVOLUTION of ARCHAIC MEASUREMENT

Useful VIDEO Link http://metricamerica.com/evolutionof.htm

Many years ago there was very little trade and measurement
was crude and subject to confusion.
Apparently, the yard was supposed to be half the span from finger-tip
to finger-tip of a King's outstretched arms.
And the pound was the *"weight of 7,000 grains of
barley chosen from the middle ear"*.
Rough and inaccurate measurement was good enough for barter between
friends and relatives but trouble arose when commercial trade began.
Relationships evolving out of haphazard methods of
measurement were anything but simple.
And as merchants adopted a form of measurement that would be
met with more acceptance by the general public of that era
the outcome resulted in having
2 pints to the quart, 4 quarts to the gallon,
22 yards to a chain, 16 ounces to the pound
(*is that ounces of nuts or ounces in a can of juice?*)
12 inches to a foot
(a foot isn't anywhere close to a human foot)
3 feet in a yard, 5,280 feet in a mile,
firkens and knogenheads and *on and on and on*.
A pound even had five varied weights and meanings used throughout the
Middle Ages and in Britain weight was measured as *14 pounds to the "stone"*.
It was an outdated and archaic method of measurement seemingly
reserved for British colonies in America's past.
The irony in this, is that after the British were historically defeated
in the United States, an American gallon remained the outdated
measurement adopted from what was known as the
Queen Ann's Wine Gallon".

And still remains somewhat today.

Useful VIDEO Link http://metricamerica.com/evolutionof.htm

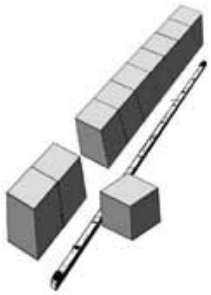
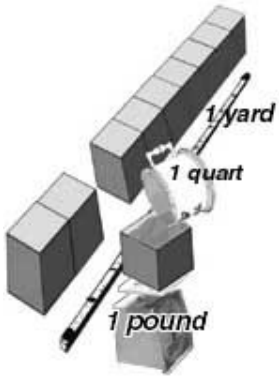
INCH-POUND Non- System

Useful VIDEO Link http://metricamerica.com/images/metric%20I%20Believe.wmv

PLEASE NOTE:

NONE OF THIS EXAMPLE BELOW IS POSSIBLE.
WE JUST *IMAGINE* IT TO ILLUSTRATE
HOW NOTHING WITH INCH-POUND MEASUREMENT
IS RELATED TO ANYTHING.

Let's *IMAGINE* a person from another archaic country or planet that wanted to know how you could possibly make the old *"inch-pound non-system"* easy to understand by demonstrating how *LENGTH, LIQUID* and *WEIGHT* *might* *somehow relate to each other with inch-pound measurement.*

IMAGINE... IF you could take the length of a yard and divide it by exactly ten equal parts so we can make a cube container with those same equal sides to hold water.	
Then by some strange course of events IMAGINE again IF we could fill that cube container with water. AND that cube contained the liquid of exactly 1 quart which, when placed on a scale MIGHT weigh exactly 1 pound.	
	***LENGTH, LIQUID and WEIGHT ALL RELATED?*** • ***Let's go party!***

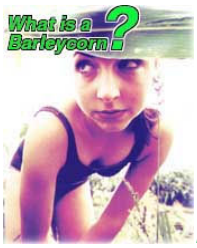
Stop the Party!

THERE'S A BIG PROBLEM HERE
and HAS BEEN FOR
A LONG TIME!

Useful VIDEO Link http://metricamerica.com/inchpound.htm

NOTHING RELATES

in such an outdated non-system of
inches, pounds, gallons, firkens, knoginheads

or even 

barleycorns!

Lifetimes have been consumed trying to memorize
complicated figures and fractions.
And writing silly things like *"oz."* for ounce or *"lb."* for pound.
Is the solid of 16 oz. in a bag of nuts
the same as 16 oz. of liquid in a can of juice?
OR
Try to add up in your head, the total of 2/3+3/8+3/5 of an inch.
OR
Go shopping and try to
determine which is the better buy...
1-17 oz. can of a product for 63 cents,
or 2-14.5 oz. cans for $1.10
or maybe 3-16 oz. cans for $1.49?
THEN THERE IS
3 feet in a yard... 12 inches in a foot…
The length of a foot is nowhere near the size
of an average person's foot and *blah, blah, blah*.

•

But when measuring in metric dimensions
LENGTH, VOLUME and MASS are All Simply Related in 10.

Useful VIDEO Link
http://metricamerica.com/images/metric%20I%20Believe.wmv

SI RELATES IN 10

The System of International Measurement called "SI" is the metric measurement used in America and around the World.

An international system of measurement evolved that was assisted in it's development as a result of for-sighted American Fathers like Thomas Jefferson who gave us an American dollar with 100 cents and Dr Benjamin Franklin who, along with other devoted attendees of the Academy of Sciences in Paris, contributed significantly to the simple design and development of measuring in metric dimensions.

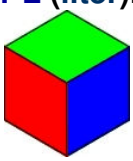
Useful VIDEO Link http://metricamerica.com/ametricanman.htm

HERE'S HOW IT WORKS!

Simply divide the Length of 1 m (meter) in exactly 10 equal parts, each of which measures 10 cm (centimeters). Make a cube container with it that is 10 cm x 10 cm x 10 cm (1000 cm³) and fill with water.

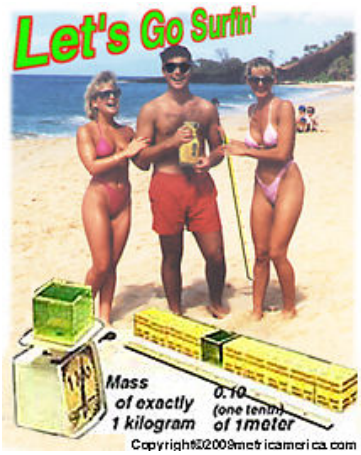
(Technically, it is supposed to be *distilled water at sea level)*

Like magic, when you fill this cube container with water, it has the *Volume* of exactly 1 L (liter).



Useful VIDEO Link http://metricamerica.com/ametricanman.htm

RULES, PRACTICES and USES GUIDE Pages 78-79.



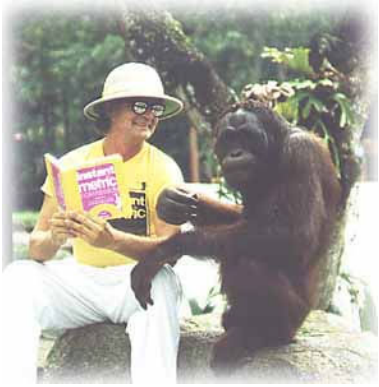
Then, when you place this (1000 cm³) cube filled with water on a scale it has the *Mass* of exactly 1 kg (kilogram).

ALL SIMPLY RELATED in

10!

LENGTH, VOLUME and MASS.®©db2011

Useful VIDEO Link http://metricamerica.com/ametricanman.htm



Regardless of political or religious persuasion, ethnic or educational background, race, age, sex or wherever people think they are from, *decimal measurement*

works

in harmony with life itself.

AND IT'S ALL SIMPLY RELATED IN 10!

Creation… Evolution, 10 digit hands and 10 digit toes. Right?

Useful VIDEO Link http://metricamerica.com/monkey.htm

Do This Again.

Divide 1 meter by exactly 10 equal parts.
Then, make a cube (10 cm x 10 cm x 10 cm) to fill with (1000 cm³) water,
and you will find that it contains exactly 1 L (1 liter) (1000 mL) of water.
Now, when this cube filled with water is placed on a scale it is has the mass of exactly 1 kg (1 kilogram).

(Both spellings meter and liter as well as metre and litre are correct.)

RULES, PRACTICES and USES GUIDE Pages 78-79.

The Metric System

WORKS IN HARMONY WITH LIFE ITSELF!

First you take 10 of whatever you have handy.

10! *IT'S ALL SIMPLY RELATED IN* 10!

Convenient Prefix attached in front of
Base or Derived Unit of Measure
shows *Quantity, Size* or *Value* by 10, 100 and 1000.

Useful VIDEO Link http://metricamerica.com/themetricsystem.htm

WRITING IS EASY!

Symbols identify Prefix and Base or Derived Unit of Measure together.
Symbols like cm (centimeter) or mL (milliliter)
or kg (kilogram) *for example*.

For most *everyday purposes* useful Prefixes *are*
milli - 1 one thousandth (0.001)
from the Base or Derived Unit of Measure.

•

centi - 1 one hundredth (0.01)
from the Base or Derived Unit of Measure.

•

kilo – 1000 times as much
as the Base or Derived Unit of Measure.

Useful VIDEO Link http://metricamerica.com/themetricsystem.htm
RULES, PRACTICES and USES GUIDE Pages 78-79.

Prefixes and Symbols *Together*

PREFIXES

Convenient Prefix attached in front of
Base or Derived Unit of Measure
shows *Quantity, Size* or *Value* in 10, 100 and 1000.

Useful VIDEO Link http://metricamerica.com/prefixes.htm

For most everyday experience Prefixes we use are

milli • centi • kilo

Writing is Easy!

SYMBOLS

Identify Prefix and
Base or Derived Unit of Measure
TOGETHER

Useful VIDEO Link http://metricamerica.com/symbols.htm

For most everyday experience we use

BASE UNIT meter - m for ***LENGTH***

Derived UNIT liter - L for ***VOLUME***

BASE UNIT kilogram - kg for ***MASS***

RULES, PRACTICES and USES GUIDE Pages 78-79.

PREFIXES

Convenient Prefix attached in front of
Base or Derived Unit of Measure
shows *Quantity, Size* or *Value*
in 10, 100 and 1000.

For most everyday experience
Prefixes we use are

milli • centi • kilo

Useful VIDEO Link http://metricamerica.com/prefixes.htm

PREFIX SYMBOL for EVERYDAY USE	*BASE and Derived UNIT SYMBOL*
m *milli* is 1 one thousandth (0.001) c *centi* is 1 one hundredth (0.01) k *kilo* is 1000 times as much	meter - m liter - L kilogram - kg

WRITING IS EASY

Symbols like mL or mg or mm or kg or cm
TOGETHER identify Prefix
and Base or Derived Unit of Measure.

Useful VIDEO Link http://metricamerica.com/prefixes.htm

The International Bureau of Weights and Measures notes:
Unit symbols are mathematical entities and not abbreviations. Among other things, they are not followed by a period except at the end of a sentence and they are not made plural.

RULES, PRACTICES and USES GUIDE Pages 78-79.

SYMBOLS

Symbols Identify Prefix and Base or Derived Unit of Measure *TOGETHER*

Useful VIDEO Link http://metricamerica.com/symbols.htm

BASE and Derived UNIT SYMBOL	*PREFIX SYMBOL for EVERYDAY USE*
meter m	**m *milli* is 1 one thousandth (0.001)**
liter L	**c *centi* is 1 one hundredth (0.01)**
kilogram kg	**k *kilo* is 1000 times as much**

WRITING IS EASY

Simply place the Prefix in front of the Base or Derived Unit of Measure like mm (millimeter), cm (centimeter), km (kilometer) or mg (milligram), kg (kilogram) or mL (milliliter) for example.

The Size or Quantity is indicated by the *first letter* or Prefix *Symbol* and the *second letter* or *Symbol* identifies the Prefix and Base or Derived Unit of Measure.

Useful VIDEO Link http://metricamerica.com/symbols.htm

Note: Where symbols are used convention has it that they are always lower case letters except where the Base Unit is named after a person like Celsius (℃), Pascal (P) or Newton (N) and 16 other scientists in the world. Then the symbol is noted by a CAPITAL LETTER.

So, what's with a capital letter "L" for liter when the capital letter is supposed to be for a persons name?

As technology came along it became apparent that typewriters did not have the script "ℓ", so attempts were made to use the lower case **"l"** *(el)*. Then it became further confusing to write **"1l"** (lower case "*el*") as the **"1"** and **"l"** (*el)* looked too similar, as did the capital **"I"** (*eye*). **Thus, the capital "L" was chosen as the Symbol for the Derived Base Unit "liter".**

RULES, PRACTICES and USES GUIDE Pages 78-79.

EVERYDAY BASE UNITS

meter • liter • kilogram

Both spellings, **meter** ***and*** **metre,**
as well as **liter** ***and*** **litre** ***are acceptable.***

Useful VIDEO Link http://metricamerica.com/everyday%20units.htm

BASE UNIT meter - m for ***LENGTH***
Derived UNIT liter - L for ***VOLUME***
BASE UNIT kilogram - kg for ***MASS***
Symbols like mL or mg or mm or kg or cm
TOGETHER
identify Prefix and Base or Derived Unit of Measure.

meter - use the symbol - **m**	
1000 mm = 1 m	**millimeter - mm**
100 cm = 1 m	**centimeter - cm**
1000 m = 1 km	**kilometer - km**

liter - use the symbol - **L**	
1000 mL = 1 L	**milliliter – mL**

Useful VIDEO Link http://metricamerica.com/everyday%20units.htm

kilogram - use the symbol - **kg**	
1000 mg = 1 g	**milligram - mg**
1000 g = 1 kg	**kilogram - kg**
1000 kg = 1t	**tonne - t**

SEE PAGE 37
"7 Base Units" used in Science, Industry and Commerce.
RULES, PRACTICES and USES GUIDE Pages 78-79.

The Base Unit for

LENGTH

is

meter (m)

also spelled **metre**

Use the symbol m

Useful VIDEO Link http://metricamerica.com/metre.htm

Unit symbols are mathematical entities and not abbreviations. Among other things, they are not followed by a period except at the end of a sentence and they are not made plural.

RULES, PRACTICES and USES GUIDE Pages 78-79.

millimeter (mm)

•

centimeter (cm)

•

meter (m)

•

kilometer (km)

millimeter, centimeter, meter *and* kilometer

also spelled

millimetre, centimetre, metre *and* kilometre

The Base Unit for LENGTH is

meter (m)

also spelled **metre**

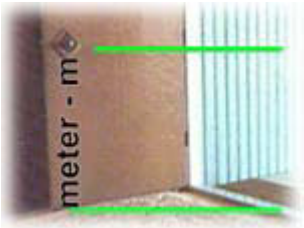
Useful VIDEO Link http://metricamerica.com/metre.htm

Use the symbol m

A meter is about as long as a baseball bat.

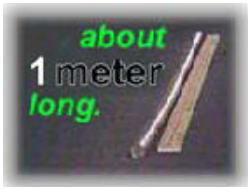
A meter can be the length of an average persons *long step*.

The height of the handle on a standard door is about 1 meter from the floor.



If a dime is about 1 millimeter thick...

then 1000 dimes placed side by side would be about 1 meter long.



To measure any length, a meter stick or tape measures accurately without complicated fractions.

Useful VIDEO Link http://metricamerica.com/metre.htm

This diving board is 10 meters tall. An Olympic sized pool is 50 meters long.

Useful VIDEO Link http://metricamerica.com/metre.htm

Longer distances like the height of a mountain can be measured in meters. The length of a bridge can be measured in meters and so can the height of a waterfall.

Useful VIDEO Link http://metricamerica.com/metre.htm

***Smaller Measurements from a* meter**

1 centimeter (1 cm)	**Remember, centi is the Prefix meaning 1 one hundredth of the Base Unit meter. So, 1 one hundredth from a meter (0.01 m) is simply written 1 cm.**

***Smaller Measurements from a* centimeter**

1 millimeter (1 mm)	**Remember, milli is the Prefix meaning 1 one thousandth (0.001). So, 1 one thousandth from the Base Unit meter being 1 millimeter is simply written 1 mm.**

***Larger Measurement from a* meter**

1 kilometer (1 km)	**Remember, kilo is the Prefix meaning 1000 times as much. So, one thousand meters (1000 m) being the length of 1 kilometer is simply written 1 km.** ***Pronounced*** **"KILL-oh-meet-ur" *NOT* "kill-AH-mit-ur"**

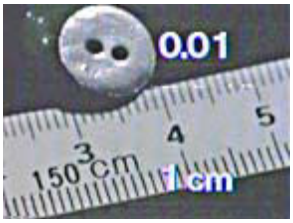
centimeter (cm)

also spelled **centimetre**

1 one hundredth from a meter (0.01 m).
There are exactly 100 cm (centimeters)
in the Base Unit meter.

Use the symbol cm

Useful VIDEO Link http://metricamerica.com/centimetre.htm



1 cm is about the width of an average blouse or shirt button.

1 cm is about the width of black keys on a standard piano.

1 cm is about the width of your little fingernail.

***Snowfall is measured in* centimeters (cm)**

•

Rainfall is measured in millimeters (mm)

Useful VIDEO Link http://metricamerica.com/centimetre.htm

The International System of Units called "SI" is the Metric Measurement used in America and around the World.

Like a dollar has
100 cents,
a meter in length
also has 100 cm.
(100 centimeters)

Useful VIDEO Link http://metricamerica.com/centimetre.htm

Centimeters are precise for measuring sewing patterns,
your height, your waist and for altering clothes.

Useful VIDEO Link http://metricamerica.com/centimetre.htm

Smaller Measurement from a centimeter

1 millimeter
(1 mm)

Remember, milli is the Prefix meaning 1 one thousandth (0.001). So, 1 one thousandth from the Base Unit meter, being 1 millimeter is simply written 1 mm.

Larger Measurement from a centimeter

1 meter
(1 m)

Remember, meter is the Base Unit for Length and all other Units are derived from it. There are exactly 100 cm (centimeters) in 1 m (meter) and there are exactly 1000 mm (millimeters) in 1 m (meter).

Larger Measurement from a meter

1 kilometer
(1 km)

Remember, kilo is the Prefix meaning 1000 times as much. So, one thousand meters (1000 m) being the length of 1 kilometer is simply written 1 km which is pronounced "KILL-oh-meet-ur" *NOT* "kill-AH-mit-ur".

millimeter (mm)

also spelled **millimetre**

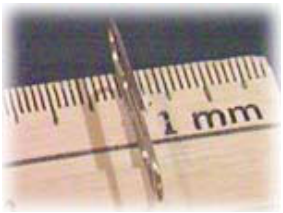
1 one thousandth from a meter (0.001 m).
There are exactly 1 000 mm (millimeters)
in the Length of Base Unit meter.

Use the symbol mm

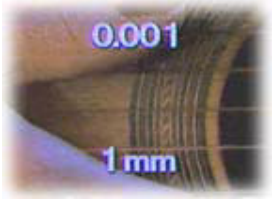
Useful VIDEO Link http://metricamerica.com/millimetre.htm

1 millimeter
(1 mm)

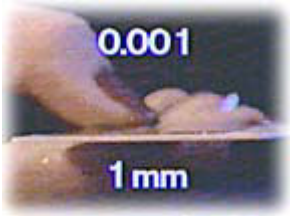
Remember, milli is the Prefix meaning
1 one thousandth (0.001).
So, 1 one thousandth from the
Base Unit meter being 1 millimeter
is simply written 1 mm.



1 mm (1 millimeter)
is about the thickness
of an
ordinary paper clip.



A guitar string can be
about 1 mm thick.



The thickness of a
credit card is
about 1 mm.

3 mm of rain wouldn't keep you
from a pleasant day of golf.

35 mm of rain is a
torrential downpour.

Useful VIDEO Link http://metricamerica.com/millimetre.htm

1 000 mm (millimeters) = 1 meter

If a *"dime"* is about 1 mm (millimeter) thick, then 1000 dimes placed side by side would be about 1 meter long.

Useful VIDEO Link http://metricamerica.com/millimetre.htm

Larger Measurement from a millimeter

1 centimeter (1 cm)

Remember, centi is the Prefix meaning 1 one hundredth of the Base Unit meter. So, 1 one hundredth from a meter (0.01 m) is simply written 1 cm.

Larger Measurement from a centimeter

1 meter (1 m)

Remember, meter is the Base Unit for Length and all other Units are derived from it. There are exactly 1000 millimeters (1000 mm) in 1 meter (1 m).

Larger Measurement from a meter

1 kilometer (1 km)

Remember, kilo is the Prefix meaning 1000 times as much. So, one thousand meters (1000 m) being the length of 1 kilometer is simply written 1 km and pronounced "KILL-oh-meet-ur"

NOT

"kill-AH-mit-ur".

Useful VIDEO Link http://metricamerica.com/millimetre.htm

kilometer (km)

also spelled **kilometre**

Use the symbol km
kilo is the Prefix meaning 1000 times as much.

Useful VIDEO Link http://metricamerica.com/kilometre.htm

There are exactly 1000 m (meters)
in 1 km (1 kilometer).
pronounced
"KILL-oh-meet-ur" *NOT* "kill-AH-mit-ur".

•

***Longer distances are measured in* kilometers.**

•

Longer distances like lakes, rivers and roads are measured in kilometers.

•

***A trip across North America is the distance of approximately 7600* kilometers.**

Going to work or holiday, distance is measured in kilometers.

A jog around the park can be measured in kilometers.

1 kilometer is about the length of 60 train cars.

Useful VIDEO Link http://metricamerica.com/kilometre.htm

ROAD TRIP TIP TO CONVERT SPEED:

When you see a road sign that is shown as 90 km/h
("90" kilometers per hour)
and you want a quick conversion to mph
(miles per hour)
while you're driving, simply *multiply 6 times "9"*
in your head and you are traveling
approximately *54 miles per hour*.

1 kilometer per hour* (km/h) *is equal to 0.6214 miles per hour.

Useful VIDEO Link http://metricamerica.com/kilometre.htm

A car traveling at 90 km/h
is moving at
90 kilometers per hour.

THAT'S EASY!

Useful VIDEO Link http://metricamerica.com/kilometre.htm

Smaller from a kilometer

1 meter (1 m)	**Remember, kilo is the Prefix meaning 1000 times as much. So, one thousand meters (1 000 m) being the length of 1 kilometer is simply written 1 km.**

Smaller Measurement from meter

1 centimeter (1 cm)	**Remember, centi is the Prefix meaning 1 one hundredth of the Base Unit meter. So, 1 one hundredth from a meter (0.01 m) is simply written 1 cm.**

Smaller Measurement from a centimeter

1 millimeter (1 mm)	**Remember, milli is the Prefix meaning 1 one thousandth (0.001). So, 1 one thousandth from the Base Unit meter being 1 millimeter is simply written 1 mm.**

The Derived Unit for

VOLUME

(LIQUID)

See Page 3 for description of "Volume/Capacity and Liquid".

is

liter

Use the symbol L

(See Page 13 for Symbol L Explained)

Useful VIDEO Link http://metricamerica.com/litre.htm

milliliter (mL)

•

liter (L)

milliliter *and* liter

also spelled

millilitre *and* litre

Useful VIDEO Link http://metricamerica.com/litre.htm

Unit symbols are mathematical entities and not abbreviations. Among other things, they are not followed by a period except at the end of a sentence and they are not made plural.

RULES, PRACTICES and USES GUIDE Pages 78-79.

liter

is the Derived Unit for VOLUME

Use the symbol L

Useful VIDEO Link http://metricamerica.com/litre.htm

Measure Volume of gasoline or most any refreshing beverage.

Volume is the amount of space in a contained substance like water in a swimming pool being measured in liters.

Which has more... 750 mL (milliliters) or 1 L (liter)?

Right!

There are exactly 1000 mL in 1 L (1 liter).

TO CALCULATE FUEL CONSUMPTION

Make a note of how many **liters** *it takes to fill up each time... note distance traveled... and find how many* **liters** *it takes to travel* **100 kilometers (km).**

Liters per 100 kilometers is written L/100 km.

Economy on the road means *LESS FUEL is BETTER!*

8.8 L/100 km is about average for a compact vehicle while the average larger vehicle might be 12.2 L/100 km.

Useful VIDEO Link http://metricamerica.com/litre.htm

The capital "L" was chosen as the Symbol for liter – see page 13.

milliliter (mL)

also spelled **millilitre**

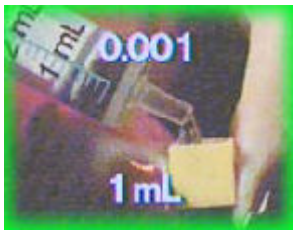
Use the symbol mL

1 one thousandths from a liter (0.001 L).

**There are exactly 1000 mL (milliliters)
in the Derived Unit of Measure liter.**

Useful VIDEO Link http://metricamerica.com/millilitre.htm

**We trust the accuracy in science and medicine
because
there are exactly 1000 mL (milliliters) in 1 L (liter).**



milliliter

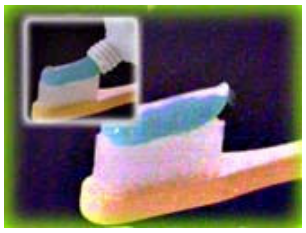
**1 milliliter
(1 mL)**
**1 milliliter is simply
written 1 mL**

**Remember, milli is the
prefix meaning
1 one thousandth (0.001 L)
from the Derived Unit liter.**

**milliliters
are useful
in the garden...**

Useful VIDEO Link http://metricamerica.com/millilitre.htm

We use milliliters for measuring medicine...



and when we brush our teeth the amount of toothpaste in a tube is in milliliters.

In comparison 5 mL (milliliters) is a Teaspoon.

15 mL (milliliters) is a Tablespoon.

And a Cup is 250 mL (milliliters) *to make a little person smile.*

Useful VIDEO Link http://metricamerica.com/millilitre.htm

Larger Measurement from a milliliter

1 liter (L)

There are exactly 1000 mL (milliliters) in 1 liter (L).

Useful VIDEO Link http://metricamerica.com/millilitre.htm

The Base Unit for

MASS

(weight)

See Page 3 for description of "Mass and Weight"

is

kilogram (kg)

Use the symbol kg

So, Why Weight?

Useful VIDEO Link http://metricamerica.com/kilogram.htm

milligram (mg)

•

gram (g)

•

kilogram (kg)

•

tonne (t)

Unit symbols are mathematical entities and not abbreviations. Among other things, they are not followed by a period except at the end of a sentence and they are not made plural.

RULES, PRACTICES and USES GUIDE Pages 78-79.

The Base Unit for *MASS is*

kilogram (kg)

Use the symbol kg

Remember, kilo is the prefix for 1000 times as much.
So, one thousand grams (1000 g)
is simply written 1 kg (1 kilogram).

Useful VIDEO Link http://metricamerica.com/kilogram.htm

This package of ground meat is about 1 kg (1 kilogram).

A new born baby can be about the mass of 3 kg. And a six week old puppy can be as heavy as 1 kg.

A 5 kg roast can easily serve over 10 or 12 people.

This 22 kilogram salmon is about 1 meter long.

Useful VIDEO Link http://metricamerica.com/kilogram.htm

A 10 kg turkey should easily serve about 20 happy appetites.

A 40 kg bag of concrete mix requires a strong back to carry.

Useful VIDEO Link http://metricamerica.com/kilogram.htm

Smaller Measurements from a kilogram

1 gram (1 g)	**Remember, kilo is the Prefix meaning 1000 times as much. So, 1000 g (grams) is the mass of 1 kg (kilogram). Pronounced *"KILL-oh-gram"* NOT *"kill-AH-gram".***

Smaller Measurements from a gram

1 milligram (1 mg)	**Remember, milli is the Prefix meaning 1 one thousandth (0.001). So, 1 one thousandth from the Unit of Measure gram being 1 milligram is simply written 1 mg.**

Larger Measurement from a kilogram

1 tonne (1 t)	**There are exactly 1000 kg (1000 kilograms) in 1 t (spelled tonne). *Pronounce it however you wish.***

Useful VIDEO Link http://metricamerica.com/kilogram.htm

gram (g)

Use the Symbol g

A Unit of Measure that is 1 one thousandths from the Base Unit kilogram (0.001 kg) because there are exactly 1000 g (grams) in 1 kg (kilogram).

(*Singular or plural the Symbol is* g)

Useful VIDEO Link http://metricamerica.com/gram.htm

The mass of 1 g (gram) *is a unit of mass that you can hardly feel on the end of your finger.*

A gram can feel about as heavy as a raisin, paper clip or a dime.

A table-tennis *(ping-pong)* ball is the mass of about 5 g.

A golf ball is about 50 g and so is a medium sized egg.

What's More?
2 scoops of ice cream is the mass of about 100 grams.

Useful VIDEO Link http://metricamerica.com/gram.htm

A handful of nuts is the mass of about 100 grams.

(*Singular or plural the Symbol is* g*)*

A medium sized apple or tomato is about 100 grams.

Useful VIDEO Link http://metricamerica.com/gram.htm

Smaller Measurement from a gram

1 milligram (1 mg)	**Remember, milli is the Prefix meaning 1 one thousandth (0.001). So, 1 one thousandth from the Unit of Measure gram being 1 milligram is simply written 1 mg.**

Larger Measurement from a gram

1 kilogram (1 kg)	**Remember, kilo is the Prefix meaning 1000 times as much. So, 1 000 g (grams) is the mass of 1 kg (kilogram).**

Larger Measurement from a kilogram

1 tonne (1 t)	**There are exactly 1000 kg (1000 kilograms) in 1 t (*spelled tonne*). *Pronounce it however you wish.***

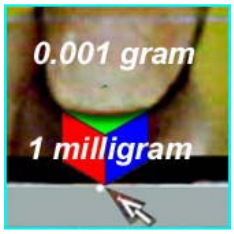
Useful VIDEO Link http://metricamerica.com/gram.htm

milligram (mg)

Use the symbol mg
1 one thousandths from a gram (0.001 g)

Useful VIDEO Link http://metricamerica.com/milligram.htm

We trust the accuracy in science and medicine because there are exactly **1000 milligrams** *in* **1 gram.**



milligram

NOTE: Originally, convention had it that the gram was to be the Base Unit for MASS but familiarity and convenience seemed to determine that the kilogram be the Base Unit for MASS.

Useful VIDEO Link http://metricamerica.com/milligram.htm

Larger Measurement from a milligram

1 gram (1 g)

Remember, milli is the Prefix meaning 1 one thousandth (0.001). So, there are exactly 1 000 milligrams in the Unit of Measure gram and 1 gram is simply written 1 g.

Larger Measurement from a gram

1 kilogram (1 kg)

Remember, kilo is the Prefix meaning 1000 times as much. So, 1 000 g (grams) is the mass of 1 kg (kilogram).

Larger Measurement from a kilogram

1 tonne (1 t)

There are exactly 1000 kg (kilograms) in 1 t *(spelled tonne).*

tonne (t)

(*spelled* tonne)

Use the Symbol t

There are exactly 1000 kg (kilograms)
in 1 metric tonne (t).

Useful VIDEO Link http://metricamerica.com/tonne.htm

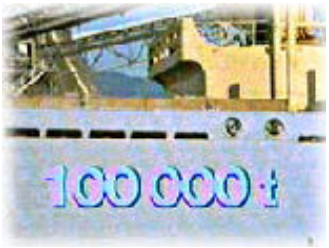
Whales can be the mass of 1 t.

(spelled* 1 tonne*)

Each railcar can carry about 42 t.

(spelled* 42 tonnes*)

A large ship can occupy the mass of 100 000 t when filled to capacity.



Useful VIDEO Link http://metricamerica.com/tonne.htm

Useful VIDEO Link http://metricamerica.com/tonne.htm

Smaller Measurement from a tonne

1 kilogram
(1 kg)

**1 thousand grams (1000 g)
is the mass of 1 kg
(1 kilogram).
And 1 kilogram
is simply written 1 kg.
•
Pronounced *"KILL-oh-gram"*
NOT *"kill-AH-gram".***

Smaller Measurement from a kilogram

1 gram
(1 g)

**Remember, kilo is the Prefix
meaning
1000 times as much,
which only says that there
are 1000 g (grams) in
1 kg (kilogram).
And we simply write 1 g
to represent
the mass of 1 gram.**

Smaller Measurement from a gram

1 milligram
(1 mg)

**Remember, milli is the
Prefix meaning
1 one thousandth (0.001).
So, 1 one thousandth from the
Unit of Measurement gram
being 1 milligram,
is simply written 1 mg.**

Useful VIDEO Link http://metricamerica.com/tonne.htm

TEMPERATURE

Say Good-Night to Fahrenheit!

Useful VIDEO Link http://metricamerica.com/temperature.htm

Sing Along!

"Make a cube, one tenth the Unit meter..
It's the Volume of exactly one liter..
It's the Mass of exactly one kilogram
to please us
Water Boils at 100 and at Zero it Freezes!"

Useful VIDEO Link
http://metricamerica.com/images/instant%20metric%20funny%20man.wmv

Body Temperature 37℃ **Water Boils at 100℃** ®©db2011		 **Water Freezes at 0℃**

(Room Temperature is 20 ℃)

Here is a Quick Temperature Conversion in Reverse.

16 ℃Celsius is about 61 ℉Fahrenheit
and 28 ℃Celsius is about 82 ℉Fahrenheit

7 BASE "SI" UNITS e.&o.e.

Established by international agreement
The International System of Units (SI) is a
modernized version of the metric system that
provides a logical and interconnected framework
for all decimal measurements in everyday use
science, chemistry, industry and commerce.
The internet, an American invention
does not exist without it.

Useful Link **http://metricamerica.com/7%20base%20units.htm**

This Metric System is built on a foundation of
Seven Base Units
and all other Units are Derived from them.
According to the US Department of Commerce,
National Bureau of Standards
use of metric measurement was legalized
in the United States in 1856
and customary BASE UNITS of measurement
for everyday use are defined in terms of the
meter for length and **kilogram** for mass.
All other Units are Derived
from the Base Unit meter.

Useful Link **http://metricamerica.com/7%20base%20units.htm**

•

meter • second • kilogram Kelvin
ampere • candela • mole

•

7 BASE "SI" UNITS

Useful Link http://metricamerica.com/7%20base%20units.htm

BASE UNIT - meter (m) - LENGTH.
Up until 1983 the meter was defined as 1,650,763.73 wavelengths in a vacuum of the orange-red line of the spectrum of krypton-86.
Since then it is determined to be the distance traveled by light in a vacuum in 1/299,792,45 of a second.

BASE UNIT - second (s) - TIME
The second is defined as the duration of 9,192,631,770 cycles of the radiation associated with a specified transition of the cesium-133 atom.

BASE UNIT - kilogram (kg) - MASS
The standard for the kilogram is a cylinder of platinum-iridium alloy kept by the International Bureau of Weights and Measures in Paris.
A duplicate at the National Bureau of Standards serves as the mass standard for the United States.
The kilogram is the only base unit defined by a physical object.

BASE UNIT - Kelvin (K) and °Celsius (°C) - TEMPERATURE
The Kelvin is defined as the fraction 1/273.16 of the thermodynamic temperature of the triple point of water; that is, the point at which water forms an interface of solid, liquid and vapor. This is defined as 0.01 °C on the Celsius scale and 32.02 °F on the Fahrenheit scale.
The temperature zero K (Kelvin) is called "absolute zero".

BASE UNIT - ampere (A) - ELECTRIC CURRENT
The ampere is defined as that current that, if maintained in each of two long parallel wires separated by one meter in free space, would produce a force between the two wires (due to their magnetic fields) of 2×10^{-7} N (Newton) for each meter of length.
(The Newton is the unit of force that when applied to one kilogram mass would experience an acceleration of one meter per second, per second).

BASE UNIT - candela (cd) - LUMINOUS INTENSITY
The candela is defined as the luminous intensity of 1/600,000 of a square meter of a cavity at the temperature of freezing platinum (2,042 K).

BASE UNIT - mole - (mol) AMOUNT OF SUBSTANCE
The mole is the amount of substance of a system that contains as many elementary entities as there are atoms in 0.012 kilogram of carbon-12.

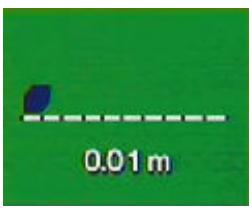
Useful Link http://metricamerica.com/7%20base%20units.htm

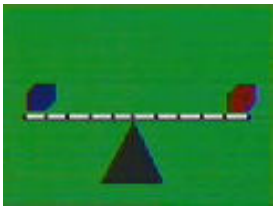
How
The Metric System Works!

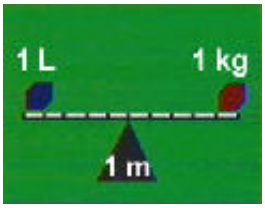
Useful VIDEO Link http://metricamerica.com/themetricsystem.htm

DID YOU KNOW

that you can divide the LENGTH of 1 meter
by exactly 10 equal parts?
Now, make a cube (10 cm x 10 cm x 10 cm)
to fill with (1000 cm^3) of water and
it contains the VOLUME of exactly 1 L (1 liter)
which, is the MASS of exactly 1 kg (1 kilogram).
(Technically, it is supposed to be distilled water at sea level.)







FROM PAGE 2

Here is the Fun Part!

1 cm^3
(1 cubic centimeter)

filled with water
contains exactly
1 mL (1 milliliter)

and is the mass
of exactly 1 g
(1 gram)

ALL SIMPLY RELATED IN 10.

EVERYDAY METRIC MEASUREMENT
RULES, PRACTICES and PRONUNCIATION GUIDE
SEE PAGES 78 to 79

Useful Link with Videos http://metricamerica.com/themetricsystem.htm