

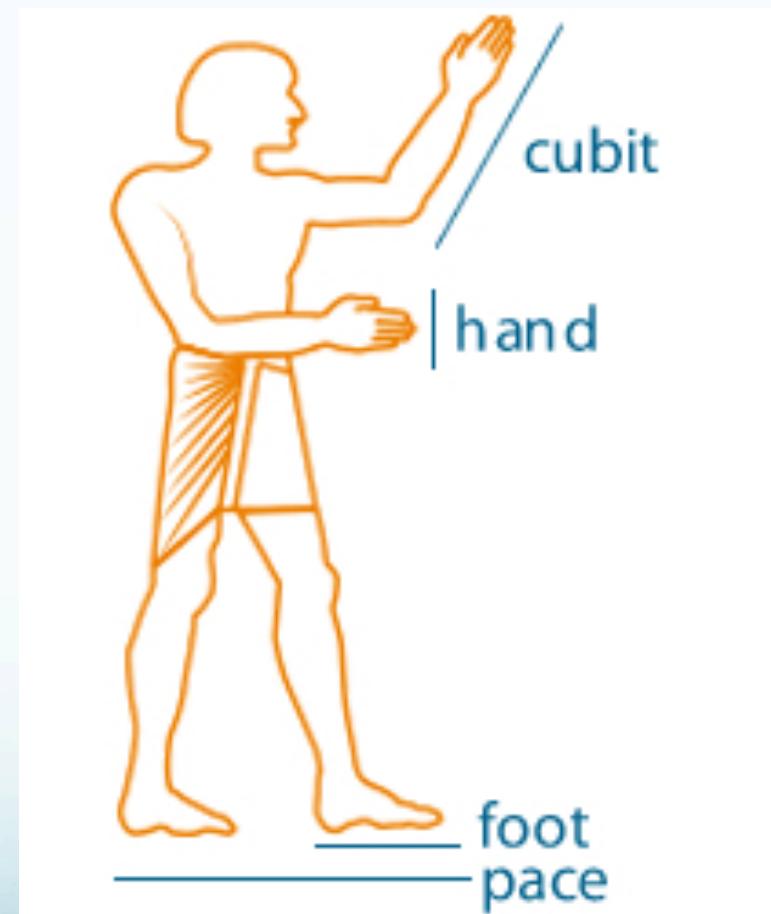


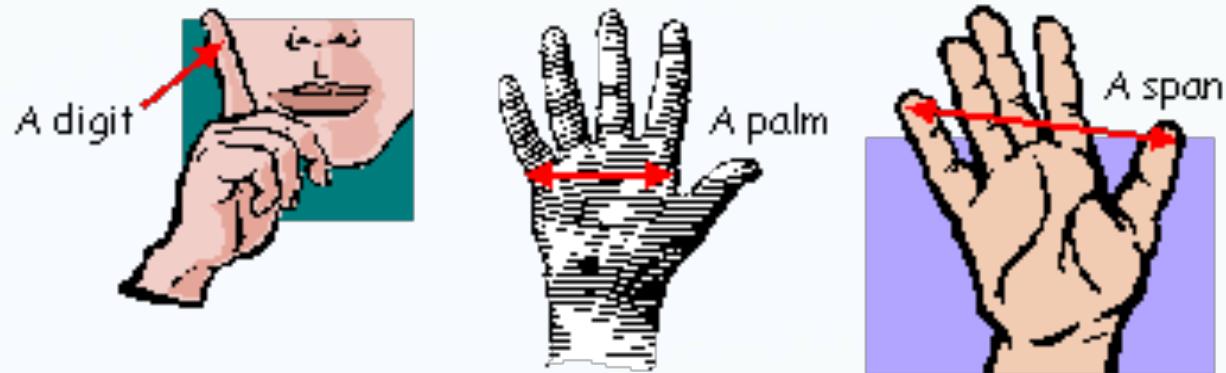
Desperate Measurements

By Michelle Turberfield

PICCOLAGE

A bit of history...





So you can imagine that the Roman would measure a distance by walking. They used their body part like the way we use our rulers or measuring tapes.

What is the problem?



To make things worse...

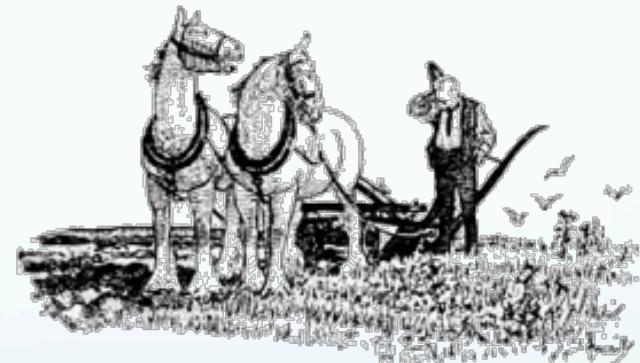
1 chain 
=

4 poles 
(or rods)

10 chains = 1 furlong

10 square chains = 1 acre

80 chains = 5,280 feet = 1 mile



Imperial units

- For length and distance:

Inch, foot, yard, mile

- For Area

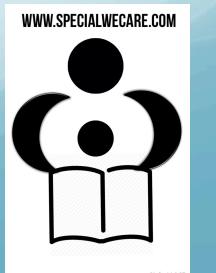
Acre

- For Volume

Ounce, pint, gallon

- For mass

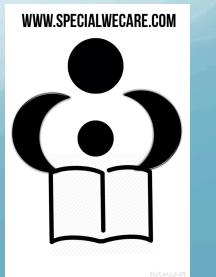
grain, ounce, pound, stone, hundredweight, ton



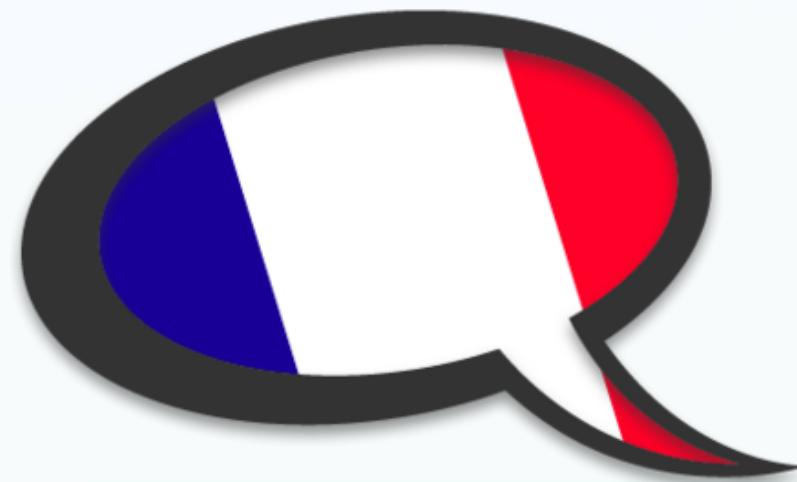
Headache!!!



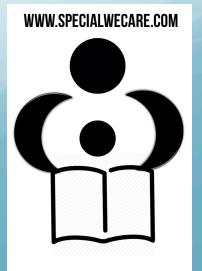
- That was why before 1970s, students used to memorize all the way to 12 time table. Why? Because 12 inches to a foot, a yard to 3 feet , 1 mile to 1760 yard.
- Don't get me started on the old English money- just count yourself lucky that we live in Singapore in 2015.

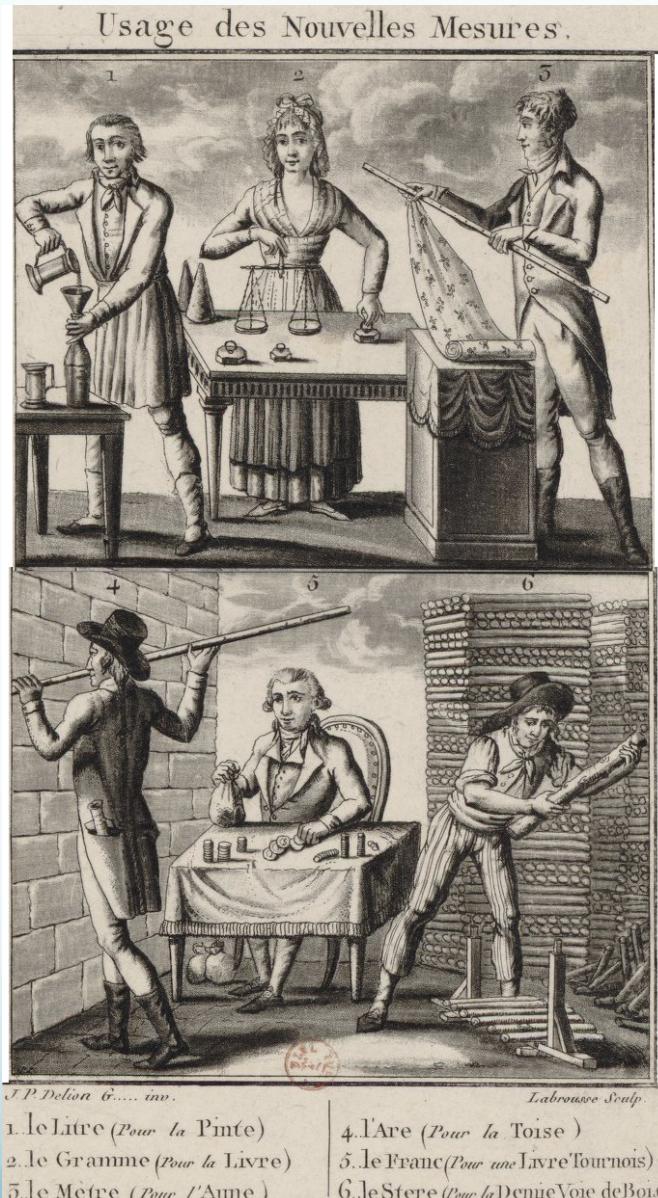


Salute



Très Bien





Metric System

- In Singapore, we use the metric system introduced by the French, during the period of Enlightenment, to the rest of the world.
- At that time, there was no standardized measurement and it was very frustrating. Hence the scientists of late 18th century created the first practical version of metric unit.

Basic measurement unit



- Length – m



- Mass – g



- Volume - l

Based on 1

- Any thing with kilo \times _____

kilometre = metre \times

kilogram = gram \times

- Any thing with milli \div _____

millimetre = metre \div

milligram = gram \div

millilitre = litre \div

Conversion

- Kilo makes it bigger a thousand time (x 1000)
- Milli makes it smaller a thousand time (/1000)

Try these: (always convert back to basic unit first)

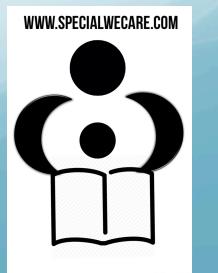
$$4 \text{ km} = \quad \text{m}$$

$$4\text{mm} = \quad \text{m}$$

You must remember km is greater than m, m is greater than mm and each by a thousand times.

$$4\text{m} = \quad \text{km} \text{ (do opposite) (divided by 1000)}$$

$$4\text{m} = \quad \text{mm} \text{ (do opposite) (time by 1000)}$$



Conversion

- Convert the following

0.4 km = m

400mm = m

5 km = m

25mm= m

(it is just a matter of moving your decimal place)

0.4 km = 0.4 m (how many space do you move)

Conversion

- Convert the following

520,000mm = m

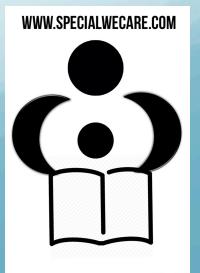
0.005 5 km = m

Now let us make it a little more interesting:

1,256,900 mm = km m mm

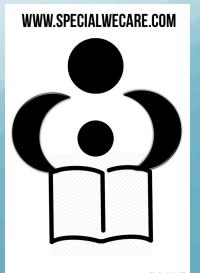
2.006 015 km= km m mm

(hint: cut the number by 3 digits space)



To remember!!!

- ‘kilo’ and ‘milli’ is by 1000.
 - The basic unit is metre.
 - ‘Kilo’ is bigger.
 - ‘Milli’ is smaller.
-
- You can do this – it is all about mental manipulation.
 - Next time- we look at ‘centi’ and ‘deci’



Homework

- Convert this (remember the 3 digit rules, watch out for those decimal):

1500m = km
m (divide by 1000)

1.678km= km m

2000mm = m mm

4.556m= m mm

4321m= km
m

3214mm= m
mm

Can you do this under 1 minute?

