

DECIMALS

'Using decimals in measurements'

Whenever we have to measure something, we use three basic units of measurement:

- *meter for length* - *gram for weight* - *litre for capacity*

we can multiply the basic units to make bigger units and divide to make smaller units.

If we multiply by 1000 we get:

$$1 \text{ m} \times 1000 = 1000 \text{ m} = 1 \text{ km}$$

$$1 \text{ g} \times 1000 = 1000 \text{ g} = 1 \text{ kg}$$

$$1 \text{ l} \times 1000 = 1000 \text{ l} = 1 \text{ kl}$$

If we divide by 1000 we get:

$$1 \text{ m} \div 1000 = 0.001 \text{ m} = 1 \text{ mm}$$

$$1 \text{ g} \div 1000 = 0.001 \text{ g} = 1 \text{ mg}$$

$$1 \text{ l} \div 1000 = 0.001 \text{ l} = 1 \text{ ml}$$

when our units of measurements are grouped in thousandths, we use decimals to express them. For example:

1) $2105 \text{ m} = 2.105 \text{ km}$

2) $3 \text{ g} = 0.003 \text{ kg}$

3) $342 \text{ l} = 0.342 \text{ kl}$

Similarly,

1) $9 \text{ kg } 545 \text{ g} = 9.545 \text{ kg} = 9 \frac{545}{1000} \text{ kg}$

2) $2 \text{ km } 700 \text{ m} = 2.700 \text{ km} = 2 \frac{700}{1000} \text{ km}$

3) $13 \text{ l } 36 \text{ ml} = 13.036 \text{ l} = 13 \frac{36}{1000} \text{ l}$