

# Measurement with SI Units

## Aim

- to become familiar with SI units and prefixes

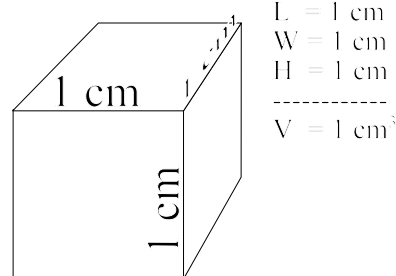
## Notes

### Important metric prefixes (see Table C—Selected Prefixes)

★ Kilo (k)	= 1,000	= $10^3$
★ Deci (d)	= 0.1	= $10^{-1}$
★ Centi (c)	= 0.01	= $10^{-2}$
★ Milli (m)	= 0.001	= $10^{-3}$
★ micro ( $\mu$ )	= 0.000001	= $10^{-6}$
★ nano (n)	= 0.000000001	= $10^{-9}$
★ pico (p)	= 0.000000000001	= $10^{-12}$

### Metric units (see Table D—Selected Units)

- ★ Length - meter (m)
- ★ Mass [quantity of matter in a body] - gram (g)
- ★ Time - second (s)
- ★ Volume [amount of space a body occupies]
  - ☆ derived from units of length ( $V=L \times W \times H$ ): cubic measure
  - ☆ Liter (L) - liquid measure
    - ★ 1 L = 1,000  $\text{cm}^3$
    - ★ 1 mL = 1  $\text{cm}^3$



### Answer the questions below by circling the number of the correct response

- Which is the equivalent of 750. calories?
 

(1) 0.750 kcal	(3) 75.0 kcal
(2) 7.50 kcal	(4) 750. kcal
- Which of the following could represent an object's mass?
 

(1) 2.54 cm	(3) 8.46 kg
(2) 9.50 L	(4) 0.95 ps
- Which is the equivalent of 1250. microliters?
 

(1) 1.250 L	(3) 1.250 cL
(2) 1.250 kL	(4) 1.250 mL
- Which of the following could represent the space an object occupies?
 

(1) 3.4 cm	(3) 4.6 kg
(2) 4.2 L	(4) 6.3 ps
- Which is the equivalent of 0.500 ks?
 

(1) 500. s	(3) 0.000500 s
(2) 50.0 s	(4) 5.00 s