

Metric Conversions

mega	kilo	hecto	deca	base	deci	centi	milli	micro
M	k	ha	da	g, L, m	d	c	m	μ
10^6	10^3	10^2	10^1	10^0	10^{-1}	10^{-2}	10^{-3}	10^{-6}
					$(\frac{1}{10})$	$(\frac{1}{10^2})$	$(\frac{1}{10^3})$	$(\frac{1}{10^6})$

$\xrightarrow{\times 10^3 \text{ (move dec right)}}$
 $\xleftarrow{\div 10^3 \text{ (move dec left)}}$

- ① move decimal
- ② use the prefix (good if converting to the base)
- ③ use factor labelling

Basic Skill Sheet

29. $4008 \text{ g} = ? \text{ mg}$

① $4008 \text{ g} = 4008000 \text{ mg}$
move decimal 3 places to right.

③ $x \text{ mg} = 4008 \text{ g} \left(\frac{1000 \text{ mg}}{1 \text{ g}} \right)$
 $x \text{ mg} = 4008000 \text{ mg}$

30. $48 \text{ mL} = ? \text{ L}$

① $48 \text{ mL} = 0.048 \text{ L}$

② $48 \text{ mL} = 48 \times 10^{-3} \text{ L} = 4.8 \times 10^{-2} \text{ L}$
milli.

③ $x \text{ L} = 48 \text{ mL} \left(\frac{1 \text{ L}}{1000 \text{ mL}} \right)$
 $x \text{ L} = 0.048 \text{ L}$

31. $239 \text{ mm} = ? \text{ cm}$

① $239 \text{ mm} = 23.9 \text{ cm}$

③ $x \text{ cm} = 239 \text{ mm} \left(\frac{1 \text{ cm}}{10 \text{ mm}} \right)$
 $x \text{ cm} = 23.9 \text{ cm}$

32. $38 \text{ kg} = ? \text{ mg}$

① $38 \text{ kg} = 38000000 \text{ mg}$

③ $x \text{ mg} = 38 \text{ kg} \left(\frac{1000 \text{ g}}{1 \text{ kg}} \right) \left(\frac{1000 \text{ mg}}{1 \text{ g}} \right)$
 $x \text{ mg} = 38000000 \text{ mg}$