

Chemistry 11 - Unit 2 Review

KEY

1. Complete the following table (Try it from memory first)

Prefix	Abbreviation	Exponent
giga	G	10^9
micro	μ	10^{-6}
mega	M	10^6
pico	P	10^{-12}
deci	d	10^{-1}
nano	n	10^{-9}
milli	m	10^{-3}
Kilo	k	10^3
centi	C	10^{-2}

2. Make the following unit conversions

a) $0.00085 \text{ L} = \underline{\hspace{2cm}} \mu\text{L}$ $8.5 \times 10^{-4} \text{ L} \times \frac{1 \mu\text{L}}{10^{-6} \text{ L}} = \underline{8.5 \times 10^2 \mu\text{L}}$

b) $432 \text{ ng} = \underline{\hspace{2cm}} \text{g}$ $4.32 \times 10^2 \text{ ng} \times \frac{10^{-9} \text{ g}}{1 \text{ ng}} = \underline{4.32 \times 10^{-7} \text{ g}}$

c) $50 \text{ ks} = \underline{\hspace{2cm}} \text{Ms}$ $5.0 \times 10^1 \text{ ks} \times \frac{10^3 \text{ s}}{1 \text{ ks}} \times \frac{1 \text{ Ms}}{10^6 \text{ s}} = \underline{5.0 \times 10^{-2} \text{ Ms}}$

d) $2 \text{ cg} = \underline{\hspace{2cm}} \mu\text{g}$ $2.0 \times 10^0 \text{ cg} \times \frac{10^{-2} \text{ g}}{1 \text{ cg}} \times \frac{1 \mu\text{g}}{10^{-6} \text{ g}} = \underline{2.0 \times 10^4 \mu\text{g}}$

e) $12 \text{ pL} = \underline{\hspace{2cm}} \text{cL}$ $1.2 \times 10^1 \text{ pL} \times \frac{10^{-12} \text{ L}}{1 \text{ pL}} \times \frac{1 \text{ cL}}{10^{-2} \text{ L}} = \underline{1.2 \times 10^{-9} \text{ cL}}$

f) $0.35 \text{ g/s} = \underline{\hspace{2cm}} \text{g/min}$ $0.35 \text{ g/s} \times 60 \text{ s/min} = \underline{21 \text{ g/min}}$

g) $70 \text{ kV} = \underline{\hspace{2cm}} \text{mV}$ $7.0 \times 10^1 \text{ kV} \times \frac{10^3 \text{ V}}{1 \text{ kV}} \times \frac{1 \text{ mV}}{10^{-3} \text{ V}} = \underline{7.0 \times 10^7 \text{ mV}}$

h) $0.1 \text{ dm} = \underline{\hspace{2cm}} \text{mm}$ $1 \times 10^{-1} \text{ dm} \times \frac{10^1 \text{ m}}{1 \text{ dm}} \times \frac{1 \text{ mm}}{10^{-3} \text{ m}} = \underline{1 \times 10^1 \text{ mm or } 10 \text{ mm}}$

i) $3.46 \text{ mg/s} = \underline{\hspace{2cm}} \text{kg/ms}$ $3.46 \times 10^0 \frac{\text{mg}}{\text{s}} \times \frac{10^{-3} \text{ g}}{1 \text{ mg}} \times \frac{1 \text{ kg}}{10^3 \text{ g}} \times \frac{10^{-3} \text{ s}}{1 \text{ ms}} = \underline{3.46 \times 10^{-9} \frac{\text{kg}}{\text{ms}}}$

j) $0.96 \text{ kg/L} = \underline{\hspace{2cm}} \text{mg}/\mu\text{L}$ $9.6 \times 10^{-1} \frac{\text{kg}}{\text{L}} \times \frac{10^3 \text{ g}}{1 \text{ kg}} \times \frac{1 \text{ mg}}{10^{-3} \text{ g}} \times \frac{10^{-6} \text{ L}}{1 \mu\text{L}} = \underline{9.6 \times 10^{-1} \frac{\text{mg}}{\mu\text{L}}}$