

**Metric Conversions Practice** Give answers in scientific notation if needed.

Name Key

1. Convert 2390 g to kg  $\frac{2390 \cancel{g}}{1} \times \frac{1 \cancel{kg}}{10^3 \cancel{g}} = 2.39 \text{ kg}$

2. Convert 750 mL to L  $\frac{750 \cancel{mL}}{1} \times \frac{10^{-3} \cancel{L}}{1 \cancel{mL}} = 0.75 \text{ L}$

3. Convert 0.52 kg to g  $\frac{0.52 \cancel{kg}}{1} \times \frac{10^3 \cancel{g}}{1 \cancel{kg}} = 520 \text{ g}$

4. Convert 2000 mg to g  $\frac{2000 \cancel{mg}}{1} \times \frac{10^{-3} \cancel{g}}{1 \cancel{mg}} = 2 \text{ g}$

5. Convert 0.75 kg to mg  $\frac{0.75 \cancel{kg}}{1} \times \frac{10^3 \cancel{g}}{1 \cancel{kg}} \times \frac{1 \cancel{mg}}{10^{-3} \cancel{g}} = 750000 \text{ mg} = 7.5 \times 10^5 \text{ mg}$

6. Convert 4.978 Mg to dg  $\frac{4.978 \cancel{Mg}}{1} \times \frac{10^6 \cancel{g}}{1 \cancel{Mg}} \times \frac{1 \cancel{dg}}{10^{-1} \cancel{g}} = 4.978 \times 10^7 \text{ dg}$

7. Convert 1500 mg to kg  $\frac{1500 \cancel{mg}}{1} \times \frac{10^{-3} \cancel{g}}{1 \cancel{mg}} \times \frac{1 \cancel{kg}}{10^3 \cancel{g}} = 0.0015 \text{ kg} = 1.5 \times 10^{-3} \text{ kg}$

8. Convert 21.3 Km to cm  $\frac{21.3 \cancel{Km}}{1} \times \frac{10^3 \cancel{m}}{1 \cancel{Km}} \times \frac{1 \cancel{cm}}{10^{-2} \cancel{m}} = 2,130,000 \text{ cm} = 2.13 \times 10^6 \text{ cm}$

9. Convert 0.25 Mg to cg  $\frac{0.25 \cancel{Mg}}{1} \times \frac{10^6 \cancel{g}}{1 \cancel{Mg}} \times \frac{1 \cancel{cg}}{10^{-2} \cancel{g}} = 2.5 \times 10^7 \text{ cg}$

10. Convert 26.9 dm<sup>3</sup> to cm<sup>3</sup>  $\frac{26.9 \cancel{dm^3}}{1} \times \left(\frac{10^{-1} \cancel{m}}{1 \cancel{dm}}\right)^3 \times \left(\frac{1 \cancel{cm}}{10^{-2} \cancel{m}}\right)^3 = 26900 \text{ cm}^3$  MORE →

11. Convert  $1.05 \times 10^1 \text{ g}$  to mg  $\frac{1.05 \times 10^1 \text{ g}}{1} \times \frac{1 \text{ mg}}{10^{-3} \text{ g}} = 1.05 \times 10^3 \text{ g}$

12. Convert 37 L to cL  $\frac{37 \text{ L}}{1} \times \frac{1 \text{ cL}}{10^{-2} \text{ L}} = 37 \times 10^2 \text{ cL} = 3.7 \times 10^3 \text{ cL}$

13. Convert 4,021 km to mm  $\frac{4201 \text{ km}}{1} \times \frac{10^3 \text{ m}}{1 \text{ km}} \cdot \frac{1 \text{ mm}}{10^{-3} \text{ m}} = 4201 \times 10^4 \text{ mm} = 4.201 \times 10^7 \text{ mm}$

14. Convert 9,055,033  $\mu\text{g}$  to kg  $\frac{9055033 \mu\text{g}}{1} \times \frac{10^{-6} \text{ g}}{1 \mu\text{g}} \times \frac{1 \text{ kg}}{10^3 \text{ g}} = 9055033 \times 10^{-9} \text{ kg} = 9.055033 \times 10^{-3} \text{ kg}$

15. Convert 0.02 nm to m  $\frac{0.02 \text{ nm}}{1} \times \frac{10^{-9} \text{ m}}{1 \text{ nm}} = 0.02 \times 10^{-9} \text{ m} = 2 \times 10^{-11} \text{ m}$

16. Convert 14 Mm to cm  $\frac{14 \text{ Mm}}{1} \times \frac{10^6 \text{ m}}{1 \text{ Mm}} \times \frac{1 \text{ cm}}{10^{-2} \text{ m}} = 14 \times 10^8 \text{ cm} = 1.4 \times 10^9 \text{ cm}$

17. Convert  $3.32 \times 10^{20} \text{ Gg}$  to ng  $\frac{3.32 \times 10^{20} \text{ Gg}}{1} \times \frac{10^9 \text{ g}}{1 \text{ Gg}} \times \frac{1 \text{ ng}}{10^{-9} \text{ ng}} = 3.32 \times 10^{38} \text{ ng}$

18. Convert 45 cL to dL  $\frac{45 \text{ cL}}{1} \times \frac{10^{-2} \text{ L}}{1 \text{ cL}} \times \frac{1 \text{ dL}}{10^{-1} \text{ L}} = 45 \times 10^{-1} \text{ dL} = 4.5 \text{ dL}$

19. Convert 250 mV to kV  $\frac{250 \text{ mV}}{1} \times \frac{10^{-3} \text{ V}}{1 \text{ mV}} \times \frac{1 \text{ kV}}{10^3 \text{ V}} = 250 \times 10^{-6} \text{ kV} = 2.5 \times 10^{-4} \text{ kV}$

20. Convert 150 mL to  $\text{m}^3$   $\frac{150 \text{ mL}}{1} \times \frac{1 \text{ cm}^3}{1 \text{ mL}} \times \left(\frac{1 \text{ m}}{10^2 \text{ cm}}\right)^3 = 150 \times 10^{-6} \text{ cm}^3 = 1.5 \times 10^{-4} \text{ cm}^3$