



Science 8

Name: _____

Section _____ Metric Conversions Date: _____

Metric Conversions: Show conversion factors and unit cancellations.

1. 35 mL = 3.5×10⁻² L $35 \text{ mL} \times \frac{10^{-3} \text{ L}}{1 \text{ mL}} = 3.5 \times 10^{-2} \text{ L or } 0.035 \text{ L}$

2. 950 g = 9.5×10⁻¹ kg $950 \text{ g} \times \frac{1 \text{ kg}}{10^3 \text{ g}} = 9.5 \times 10^{-1} \text{ kg or } 0.95 \text{ kg}$

3. 275 dm = 2.75×10¹ m $275 \text{ dm} \times \frac{10^{-1} \text{ m}}{1 \text{ dm}} = 27.5 \text{ m}$

4. 1000 L = 10 hL $1000 \text{ mL} \times \frac{1 \text{ hL}}{10^2 \text{ L}} = 1 \times 10^1 \text{ hL or } 10 \text{ hL}$

5. 1000 cL = 10 L $1000 \text{ cL} \times \frac{10^{-2} \text{ L}}{1 \text{ cL}} = 1 \times 10^1 \text{ L or } 10 \text{ L}$

6. 4500 mg = 4.5 g $4500 \text{ mg} \times \frac{10^{-3} \text{ g}}{1 \text{ mg}} = 4.5 \times 10^0 \text{ g or } 4.5 \text{ g}$

7. 25 cm = 250 mm $25 \text{ cm} \times \frac{10^{-2} \text{ m}}{1 \text{ cm}} \times \frac{1 \text{ mm}}{10^{-3} \text{ m}} = 2.5 \times 10^2 \text{ mm or } 250 \text{ mm}$

8. 0.005 kg = 5×10³ mg $0.005 \text{ kg} \times \frac{10^3 \text{ g}}{1 \text{ kg}} \times \frac{1 \text{ mg}}{10^{-3} \text{ g}} = 5 \times 10^3 \text{ mg or } 5000 \text{ mg}$

9. 0.075 dam = 75 cm $0.075 \text{ dam} \times \frac{10^1 \text{ m}}{1 \text{ dam}} \times \frac{1 \text{ cm}}{10^{-2} \text{ m}} = 75 \text{ cm}$

10. 15 dg = 1.5×10³ mg $15 \text{ dg} \times \frac{10^{-1} \text{ g}}{1 \text{ dg}} \times \frac{1 \text{ mg}}{10^{-3} \text{ g}} = 1.5 \times 10^3 \text{ mg or } 1500 \text{ mg}$