

Essential Conversions in Chemistry

$1 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$

$1 \text{ L} = \underline{\hspace{2cm}} \text{ mL}$

$1 \text{ kg} = \underline{\hspace{2cm}} \text{ g} \quad 1 \text{ mol} = \underline{\hspace{2cm}} \text{ part}$

1. 250. mL \rightarrow L

$$250. \text{ mL} \times \frac{1 \text{ L}}{1000 \text{ mL}} = \underline{.250 \text{ L}}$$

2. 85.0 cm \rightarrow m

$$85.0 \text{ cm} \times \frac{1 \text{ m}}{100 \text{ cm}} = \underline{.850 \text{ m}}$$

3. 75.0 g \rightarrow kg

$$75.0 \text{ g} \times \frac{1 \text{ kg}}{1000 \text{ g}} = \underline{.0750 \text{ kg}}$$

4. 0.25 mol \rightarrow particles

$$0.25 \text{ mol} \times \frac{6.02 \times 10^{23} \text{ part}}{1 \text{ mol}} = \underline{1.51 \times 10^{23} \text{ parts}}$$

5. 0.0067 m \rightarrow mm

$$.0067 \text{ m} \times \frac{1000 \text{ mm}}{1 \text{ m}} = \underline{6.7 \text{ mm}}$$

6. 3.01×10^{23} parts \rightarrow mol

$$3.01 \times 10^{23} \text{ part} \times \frac{1 \text{ mol}}{6.02 \times 10^{23} \text{ parts}} = \underline{.500 \text{ mol}}$$

7. 3.04 mg \rightarrow g

$$3.04 \text{ mg} \times \frac{1 \text{ g}}{1000 \text{ mg}} = \underline{3.04 \times 10^{-3} \text{ g}}$$

8. 1.76 m \rightarrow cm

$$1.76 \text{ m} \times \frac{100 \text{ cm}}{1 \text{ m}} = \underline{176 \text{ cm}}$$

9. 3.50 L \rightarrow mL

$$3.50 \text{ L} \times \frac{1000 \text{ mL}}{1 \text{ L}} = \underline{3.50 \times 10^3 \text{ L}}$$

10. 0.038 km \rightarrow m

$$.038 \text{ km} \times \frac{1000 \text{ m}}{1 \text{ km}} = \underline{38 \text{ m}}$$

11. 5.00 km \rightarrow cm

$$5.00 \text{ km} \times \frac{1000 \text{ m}}{1 \text{ km}} \times \frac{100 \text{ cm}}{1 \text{ m}} =$$

$$\underline{5.00 \times 10^5 \text{ cm}}$$

12. 67.09 mg \rightarrow kg

$$67.09 \text{ mg} \times \frac{1 \text{ g}}{1000 \text{ mg}} \times \frac{1 \text{ kg}}{1000 \text{ g}} = \underline{6.709 \times 10^{-5} \text{ kg}}$$