Mathematics Education and Support Hub (MESH)

Biology: Exponential Numbers & Unit Conversions

Sample Questions - Solutions

1a) $4587 = 4.567 \times 10^{3}$

b) $0.75 = 7.5 \times 10^{-1}$

c) $9785 = 9.785 \times 10^{3}$

d) $0.00045 = 4.5 \times 10\text{-}^{4}$

2a) $7.5 \times 10^{4} = 75000$

b) $0.58 \times 10^{8} = 58000000$

c) $5.987 \times 10^{7} = 59870000$

d) $0.458 \times 10^{-4} = 0.00458$

3a) 175 mL = 0.175 L (1000 mL in 1 L)

b) 65.7 m = 6570 cm (100 cm in 1 m)

c) 48 pounds = 21.8 kg (2.2 pounds in 1 kg)

d) 8mm = 0.008 m (1000 mm in 1 m)

4a) $8 \text{ kg} = 8 \times 10^{3} \text{ g}$

$8 \times 10^{3} \text{ g} = 8 \times 10^{6} \text{ mg}$

$8 \times 10^{6} \text{ mg} = 8 \times 10^{9} \text{ µg}$

b) $9.5 \times 10^{-6} \text{ kg} = 9.5 \times 10^{-3} \text{ g}$

$9.5 \times 10^{-3} \text{ g} = 9.5 \text{ mg}$

$9.5 \text{ mg} = 9.5 \times 10^{3} \text{ µg}$

c) $4 \times 10^{-9} \text{ µg} = 4 \times 10^{-12} \text{ mg}$

$4 \times 10^{-12} \text{ mg} = 4 \times 10^{-15} \text{ g}$

$4 \times 10^{-15} \text{ g} = 4 \times 10^{-18} \text{ kg}$