

106. We use $Q = cm\Delta T$ and $m = \rho V$. The volume of water needed is

$$V = \frac{m}{\rho} = \frac{Q}{\rho C \Delta T} = \frac{(1.00 \times 10^6 \text{ kcal/day})(5 \text{ days})}{(1.00 \times 10^3 \text{ kg/m}^3)(1.00 \text{ kcal/kg})(50.0^\circ\text{C} - 22.0^\circ\text{C})} = 35.7 \text{ m}^3 .$$