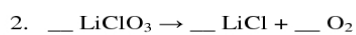
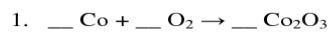


Chem 1020  
Chemical equations worksheet

Balance the following chemical equations by using the smallest whole-number coefficients possible.



$$\frac{1}{2} \text{ mol O}_2 \times \frac{6.00 \text{ kJ}}{1 \text{ mol H}_2\text{O}}$$

$$100 \text{ g H}_2\text{O} \times \frac{4.184 \text{ J}}{\text{g} \cdot ^\circ\text{C}} \times 25.0^\circ\text{C} = 10.5 \text{ kJ}$$

$$q = 1.03 \text{ kJ}$$

Part B:

$$q = \text{mol}(\text{H}_2\text{O}) \times \Delta H_{\text{fusion}}$$

$$q = 25.0 \text{ g H}_2\text{O} \times \frac{1 \text{ mol H}_2\text{O}}{18.02 \text{ g H}_2\text{O}} \times 6.01 \text{ kJ/mol}$$

$$q = 8.32 \text{ kJ}$$

Part C:

$$q = \Delta T \cdot m \cdot c_p \text{ water}$$

$$q = (100.0^\circ\text{C} - 0.0^\circ\text{C}) \times 25.0 \text{ g} \times 4.184 \text{ J/g} \cdot ^\circ\text{C} = 10.5 \text{ kJ}$$