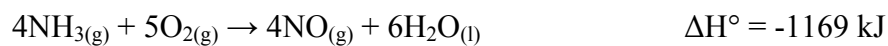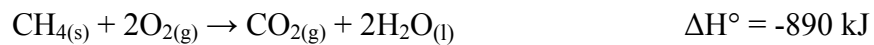*Practice Questions Section 2.1*
Endothermic and Exothermic Reactions

1. Identify each of the following reactions as exothermic or endothermic.

   $CH_{4(s)} + 2O_{2(g)} \rightarrow CO_{2(g)} + 2H_2O_{(l)}$ $\Delta H° = -890$ kJ

   $2HCl_{(g)} \rightarrow H_{2(g)} + Cl_{2(g)}$ $\Delta H° = 185$ kJ

   $4NH_{3(g)} + 5O_{2(g)} \rightarrow 4NO_{(g)} + 6H_2O_{(l)}$ $\Delta H° = -1169$ kJ

2. When potassium nitrate dissolves in water, the beaker containing the solution gets cooler. Is dissolving this salt an exothermic or an endothermic process?

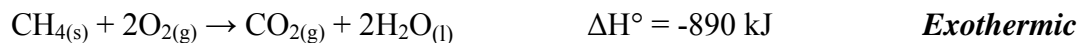*Practice Questions Section 2.1*

Endothermic and Exothermic Reactions   Answers

1. Identify each of the following reactions as exothermic or endothermic.

    $CH_{4(s)} + 2O_{2(g)} \rightarrow CO_{2(g)} + 2H_2O_{(l)}$ $\Delta H° = -890$ kJ   ***Exothermic***

    $2HCl_{(g)} \rightarrow H_{2(g)} + Cl_{2(g)}$ $\Delta H° = 185$ kJ   ***Endothermic***

    $4NH_{3(g)} + 5O_{2(g)} \rightarrow 4NO_{(g)} + 6H_2O_{(l)}$ $\Delta H° = -1169$ kJ   ***Exothermic***

2. When potassium nitrate dissolves in water, the beaker containing the solution gets cooler. Is dissolving this salt an exothermic or an endothermic process?

    This is an endothermic process. The reaction requires heat, which it absorbs from the surroundings (the water). This causes the water temperature to decrease.