Name: \_\_\_\_\_

For Teacher Use Only:

## Lab: LeChatelier's Principle Lab Credit Sheet

Answer the following questions with thoughtful, detailed answers in complete sentences. Cite specific examples from your observations and results of the lab activity.

1. According to LeChatelier's Principle and the reaction given below, list 3 things you could do to increase the output of ammonia.

$$3H_2(g) + N_2(g) \leftarrow \rightarrow 2NH_3(g)$$

2. What would happen to the concentration of  $[CoCl_4]^{2-}$  if you increased the temperature of the system. Why?

Heat + 
$$[Co(H_2O)_6]^{2+}$$
 +  $4 Cl^{1-} \rightarrow [CoCl_4]^{2-}$  +  $6 H_2O$ 

3. Other than giving egg laying hens aqueous  $CO_2$ , state one other way a farmer could help strengthen the shells of the eggs.

$$CO_2(g) \leftarrow \rightarrow CO_2(aq) \leftarrow \rightarrow H_2CO_3(aq) \leftarrow \rightarrow H^+ + (CO_3)^{2-}(aq) \leftarrow \rightarrow CaCO_3(s)$$
 (chicken breath) (egg shell)

4. Explain how changes in concentration effect the equilibrium below:

$$\begin{array}{ccc} 2 \ NO_{2 \, (g)} & = & N_2O_{4 \, (g)} \\ Brown & Colorless \end{array}$$

5. State 2 conditions that must exist in order for any equilibrium to occur?