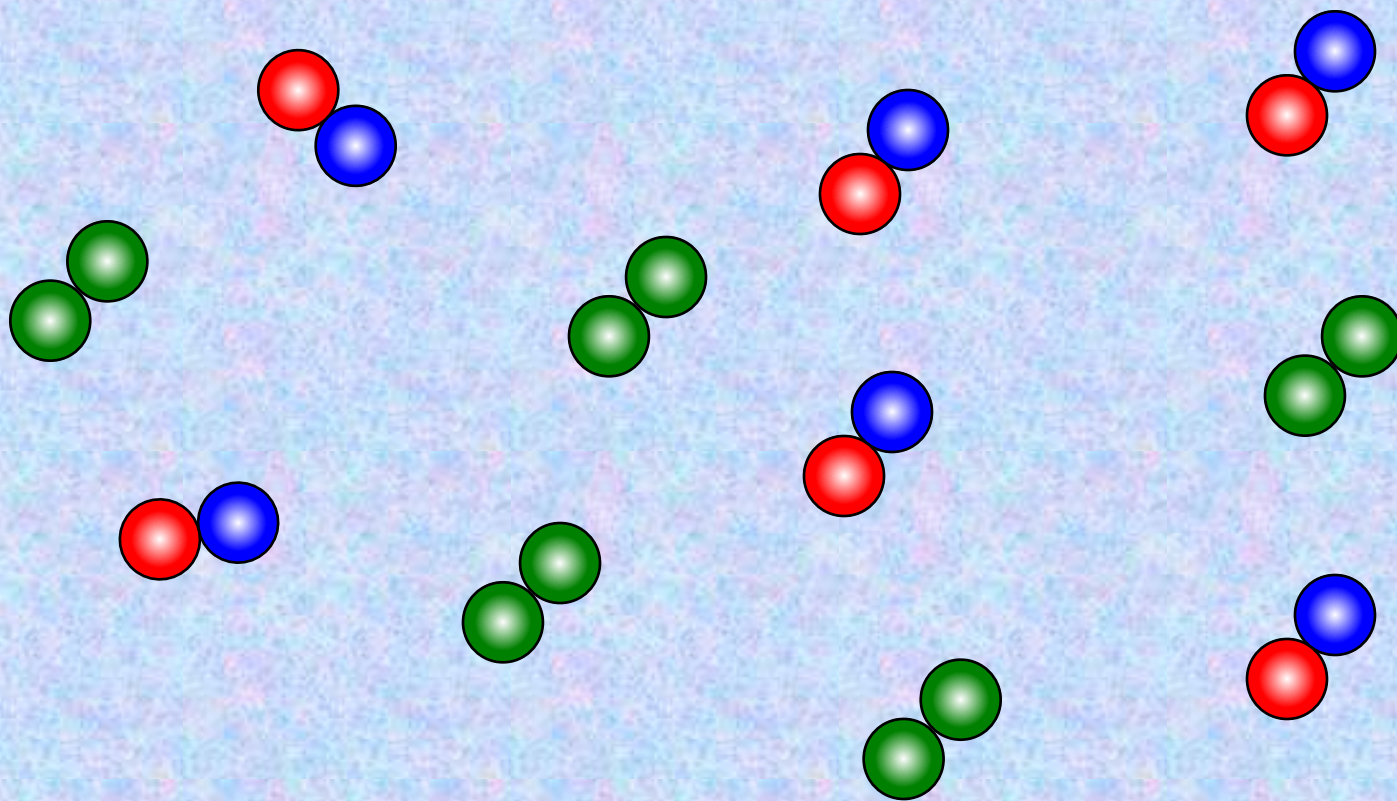
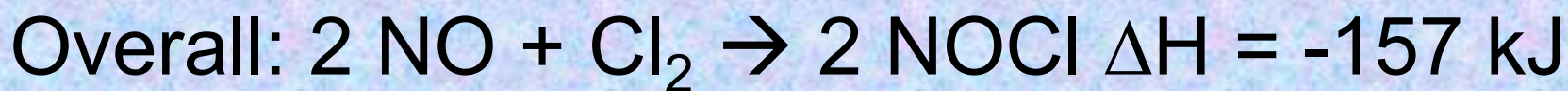
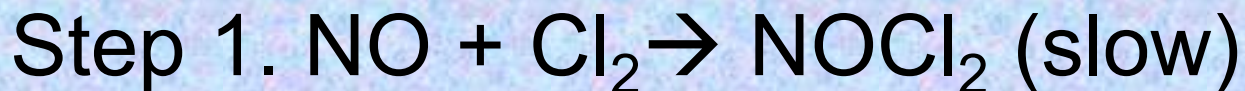
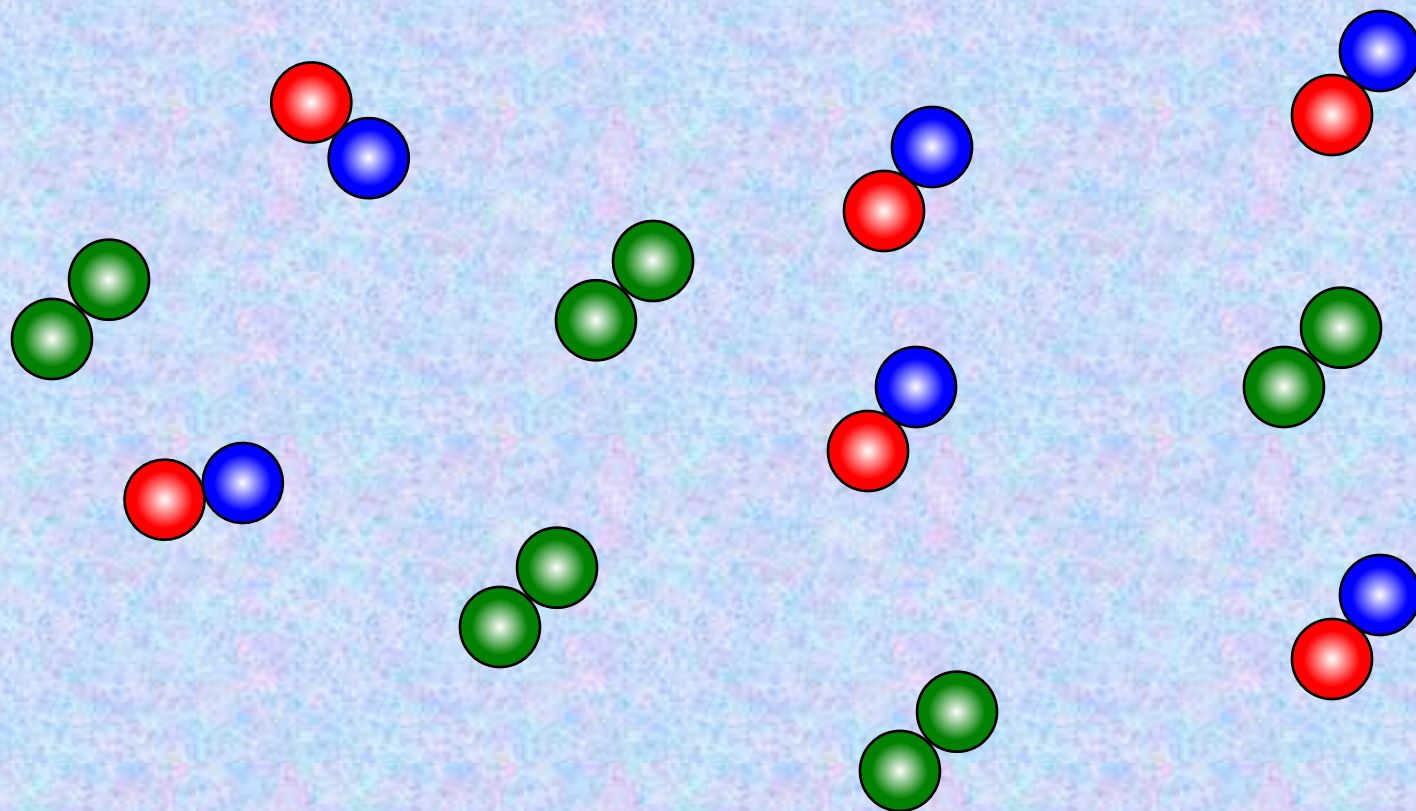
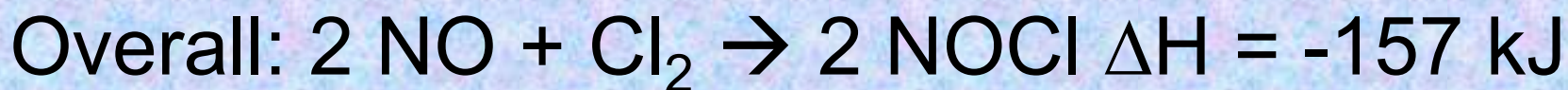
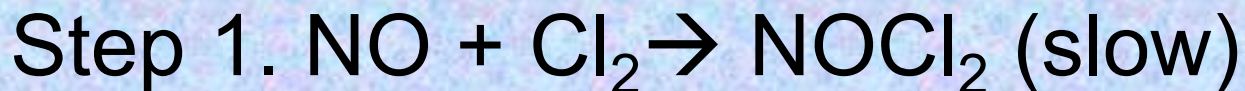


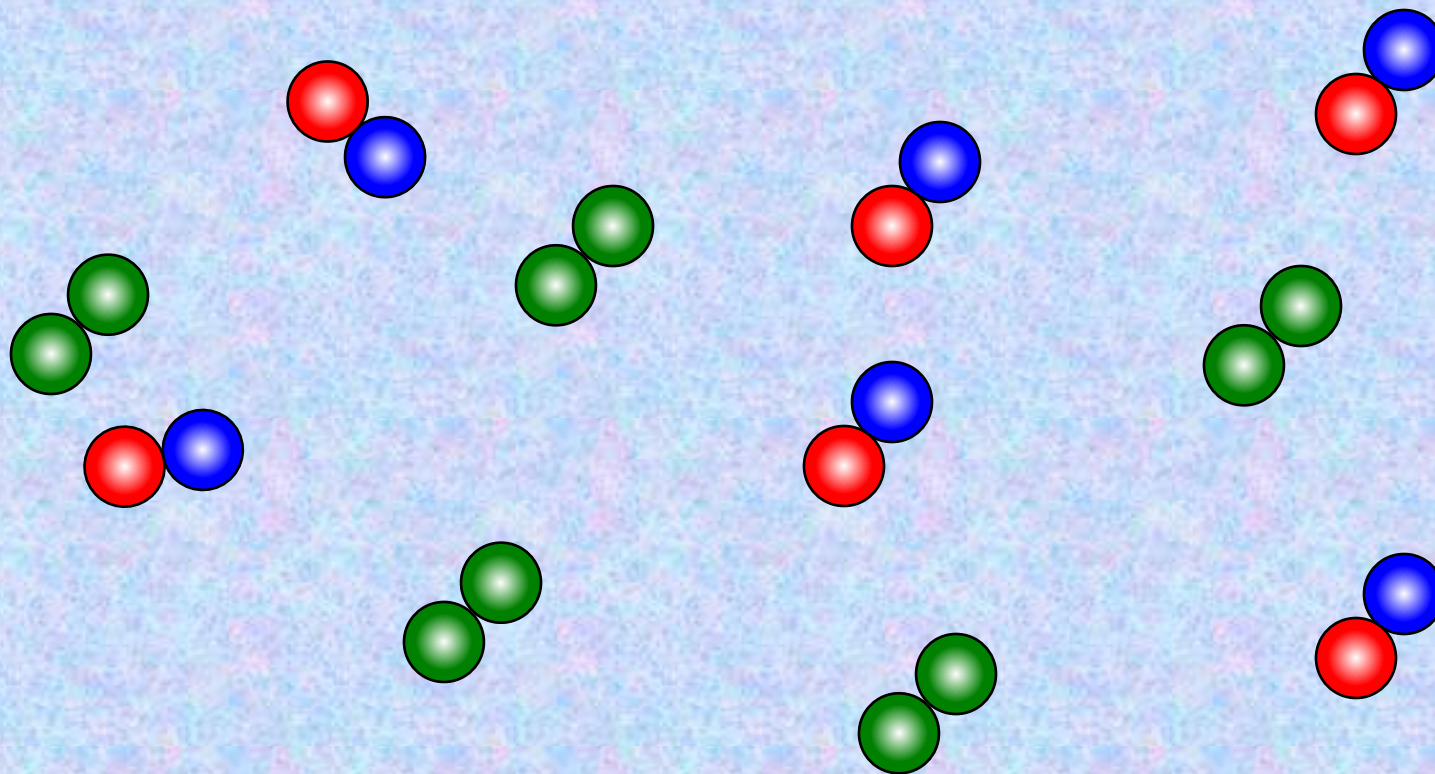
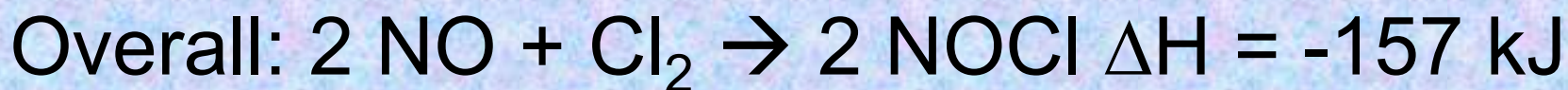
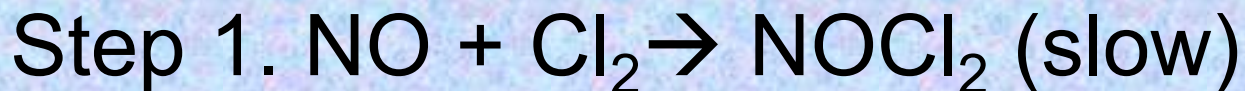
# Project 7.



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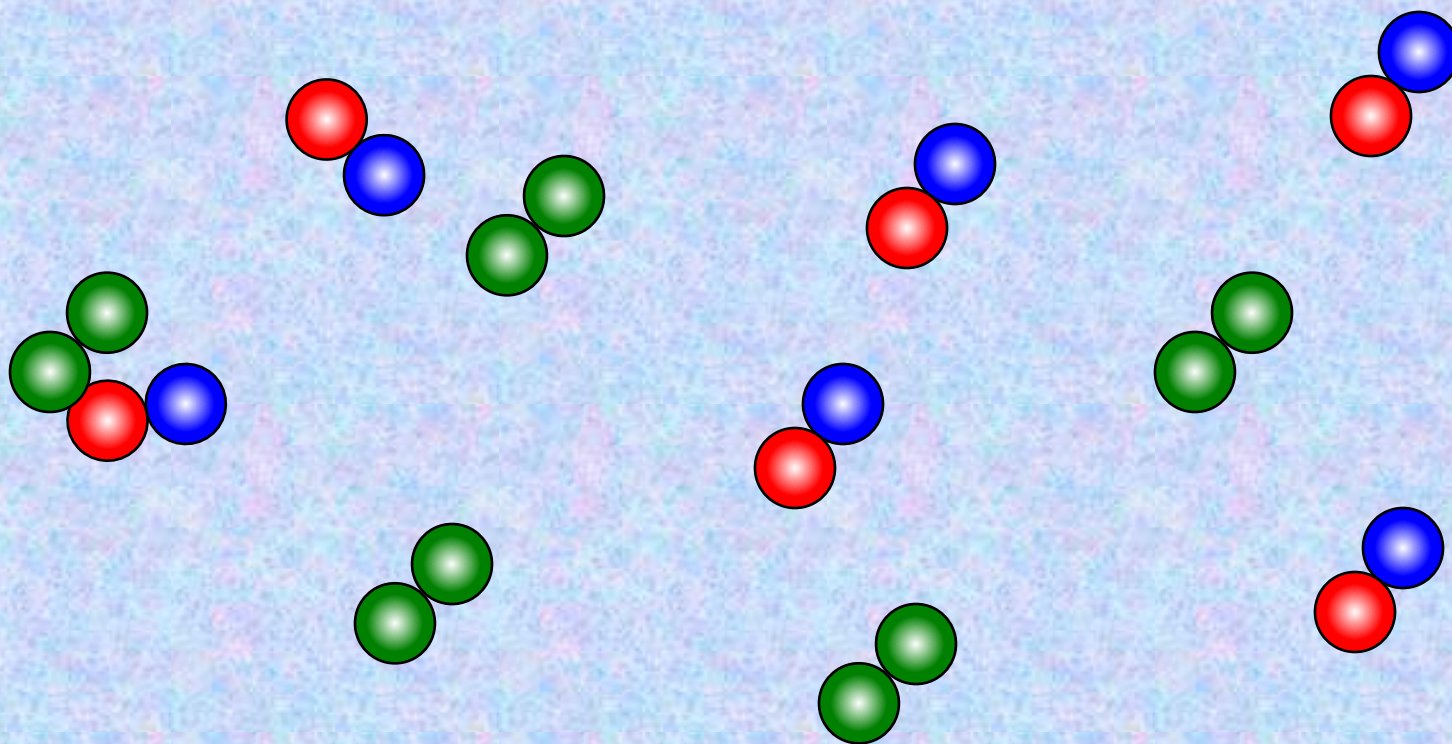
# Project 7.

Step 1.  $\text{NO} + \text{Cl}_2 \rightarrow \text{NOCl}_2$  (slow)

Step 2.  $\text{NOCl}_2 + \text{NO} \rightarrow 2 \text{NOCl}$  (fast)

---

Overall:  $2 \text{NO} + \text{Cl}_2 \rightarrow 2 \text{NOCl}$   $\Delta H = -157 \text{ kJ}$





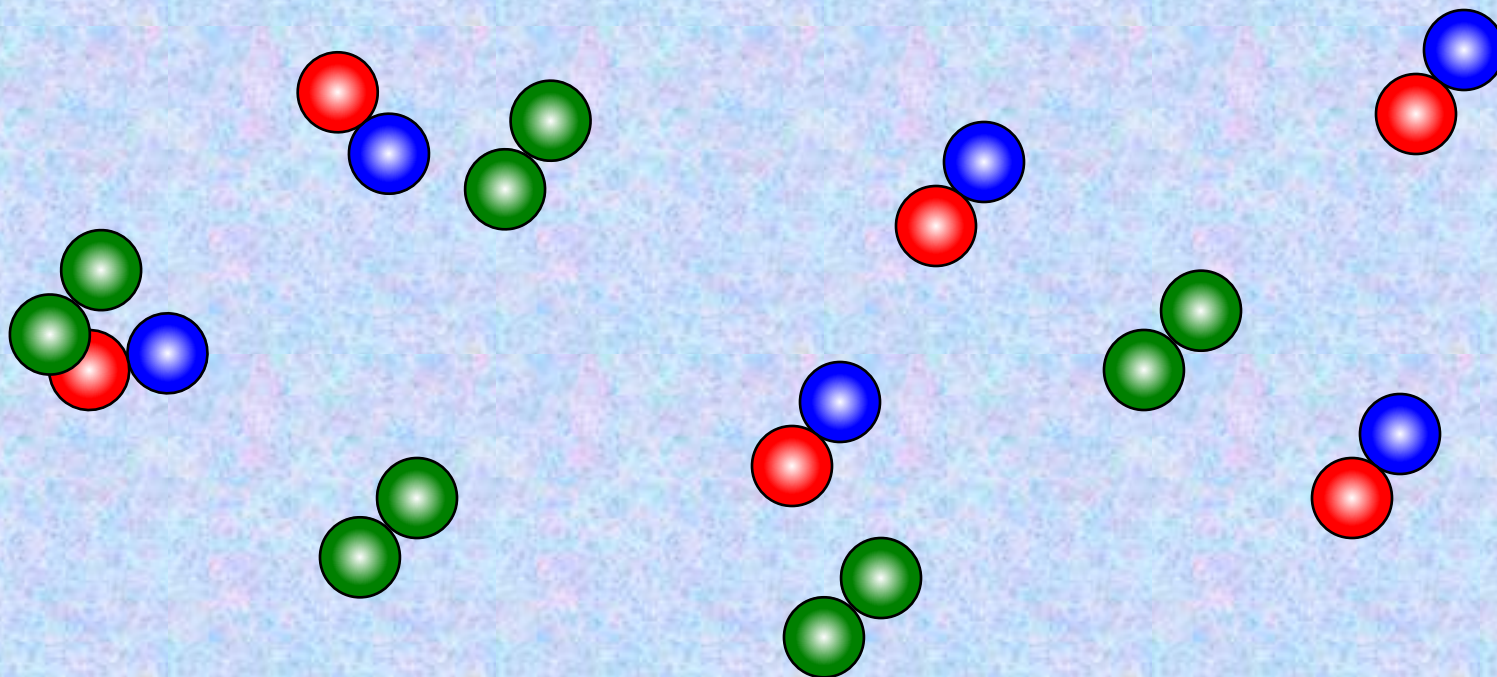
# Project 7.

Step 1.  $\text{NO} + \text{Cl}_2 \rightarrow \text{NOCl}_2$  (slow)

Step 2.  $\text{NOCl}_2 + \text{NO} \rightarrow 2 \text{NOCl}$  (fast)

---

Overall:  $2 \text{NO} + \text{Cl}_2 \rightarrow 2 \text{NOCl}$   $\Delta H = -157 \text{ kJ}$



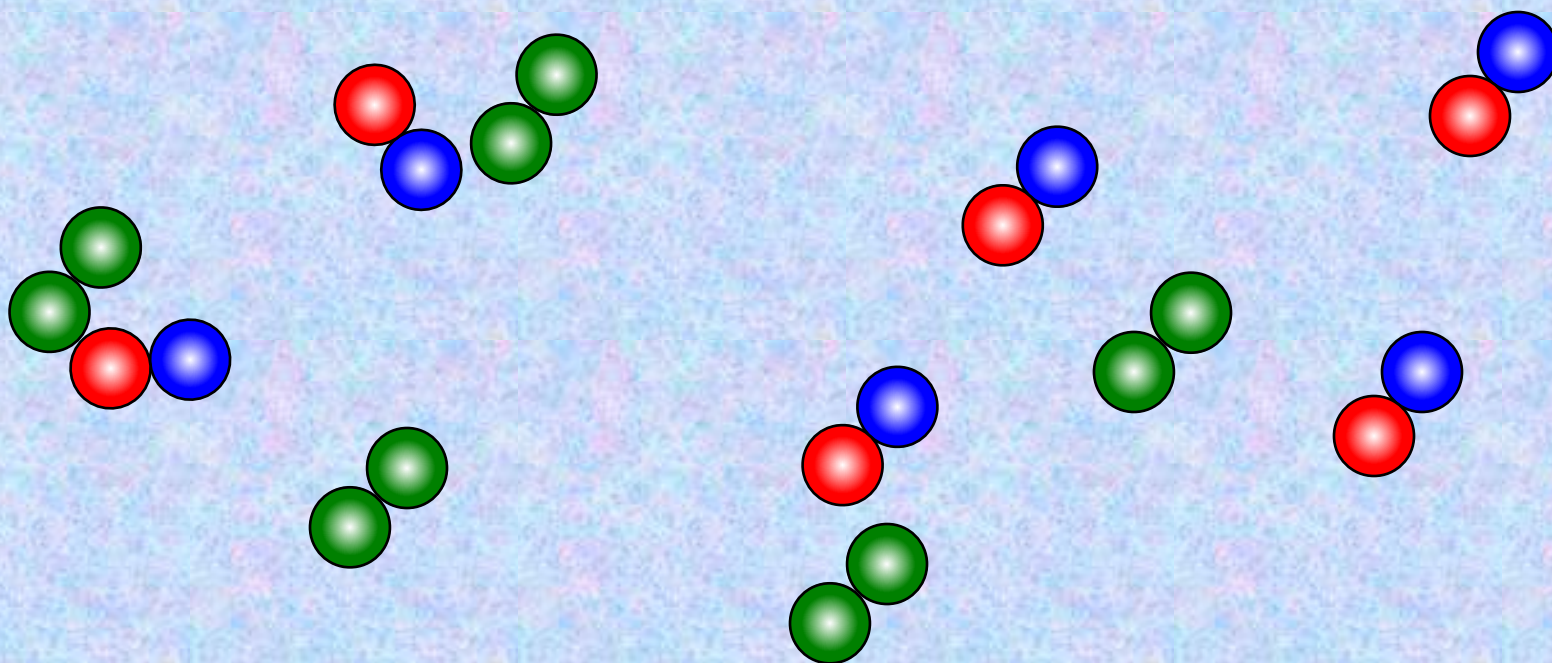
# Project 7.

Step 1.  $\text{NO} + \text{Cl}_2 \rightarrow \text{NOCl}_2$  (slow)

Step 2.  $\text{NOCl}_2 + \text{NO} \rightarrow 2 \text{NOCl}$  (fast)

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Overall:  $2 \text{NO} + \text{Cl}_2 \rightarrow 2 \text{NOCl}$   $\Delta H = -157 \text{ kJ}$



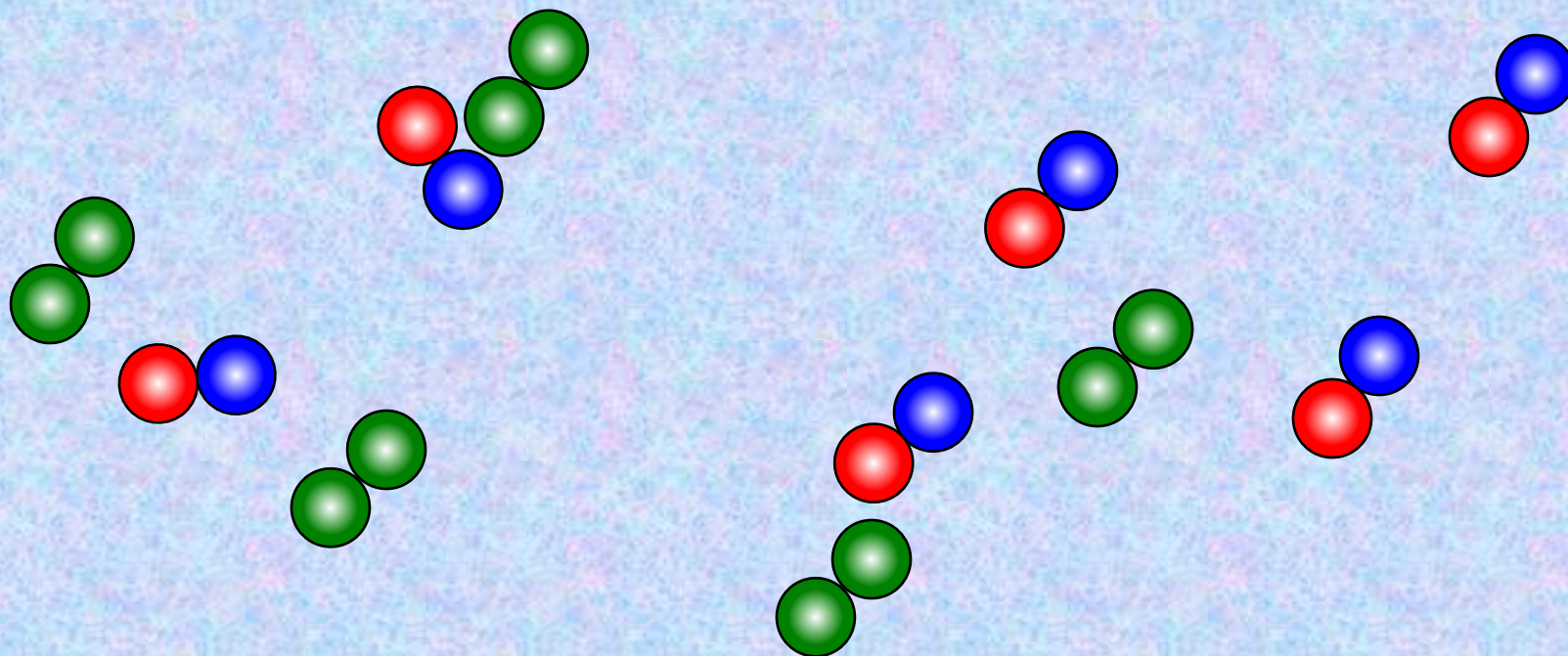
# Project 7.

Step 1.  $\text{NO} + \text{Cl}_2 \rightarrow \text{NOCl}_2$  (slow)

Step 2.  $\text{NOCl}_2 + \text{NO} \rightarrow 2 \text{NOCl}$  (fast)

---

Overall:  $2 \text{NO} + \text{Cl}_2 \rightarrow 2 \text{NOCl}$   $\Delta H = -157 \text{ kJ}$



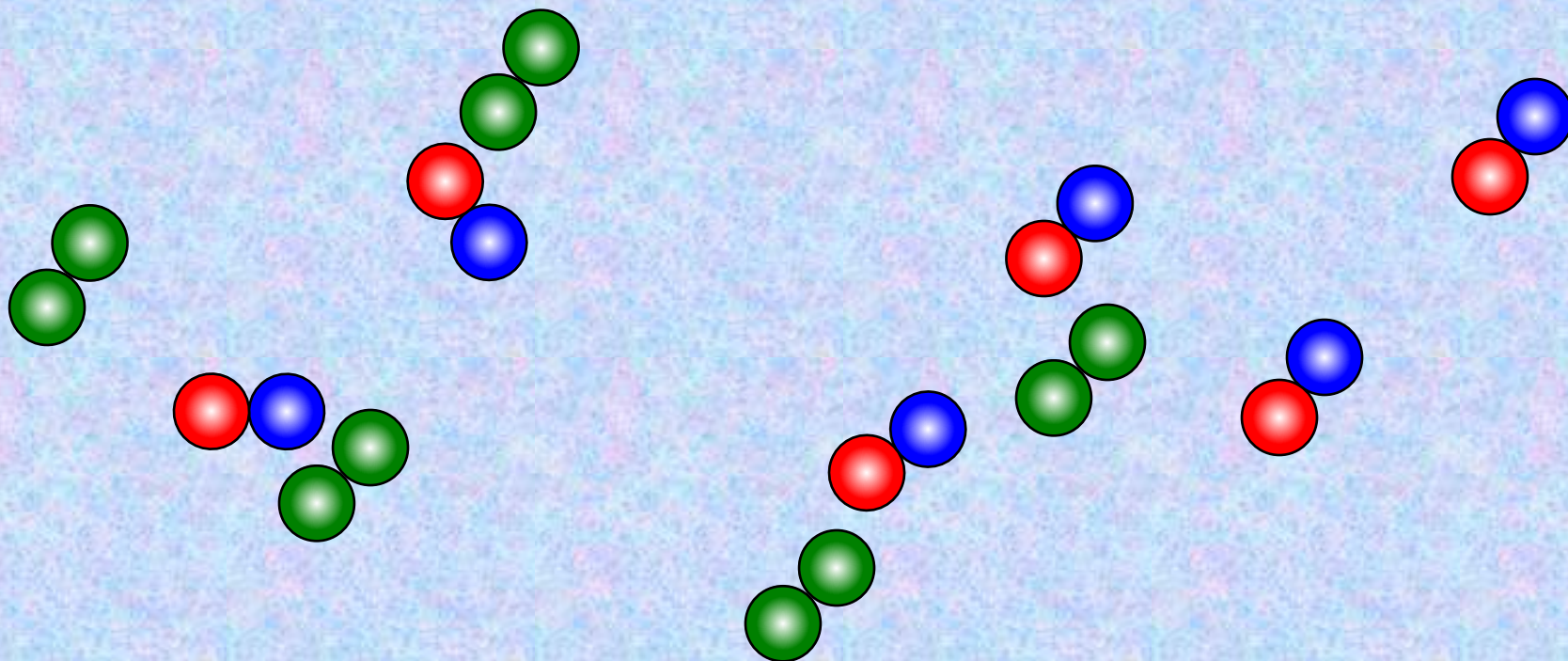
# Project 7.

Step 1.  $\text{NO} + \text{Cl}_2 \rightarrow \text{NOCl}_2$  (slow)

Step 2.  $\text{NOCl}_2 + \text{NO} \rightarrow 2 \text{NOCl}$  (fast)

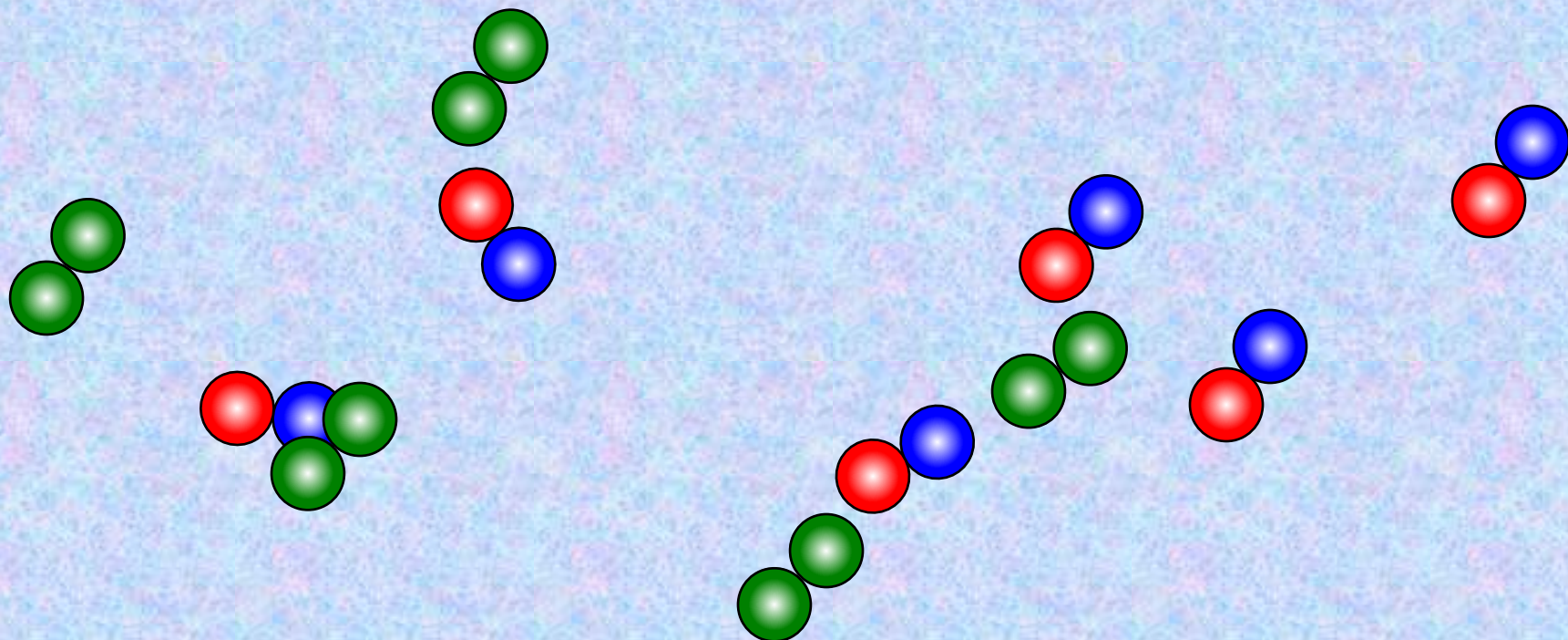
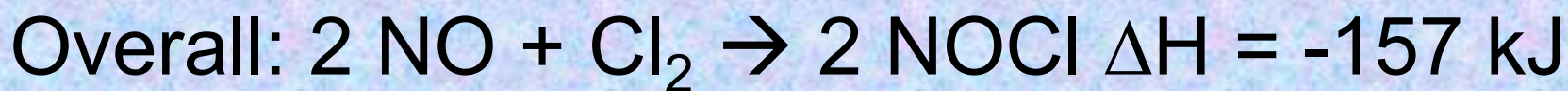
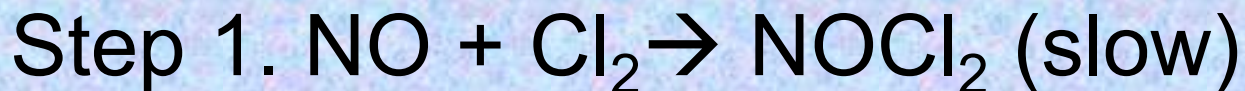
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Overall:  $2 \text{NO} + \text{Cl}_2 \rightarrow 2 \text{NOCl}$   $\Delta H = -157 \text{ kJ}$





# Project 7.



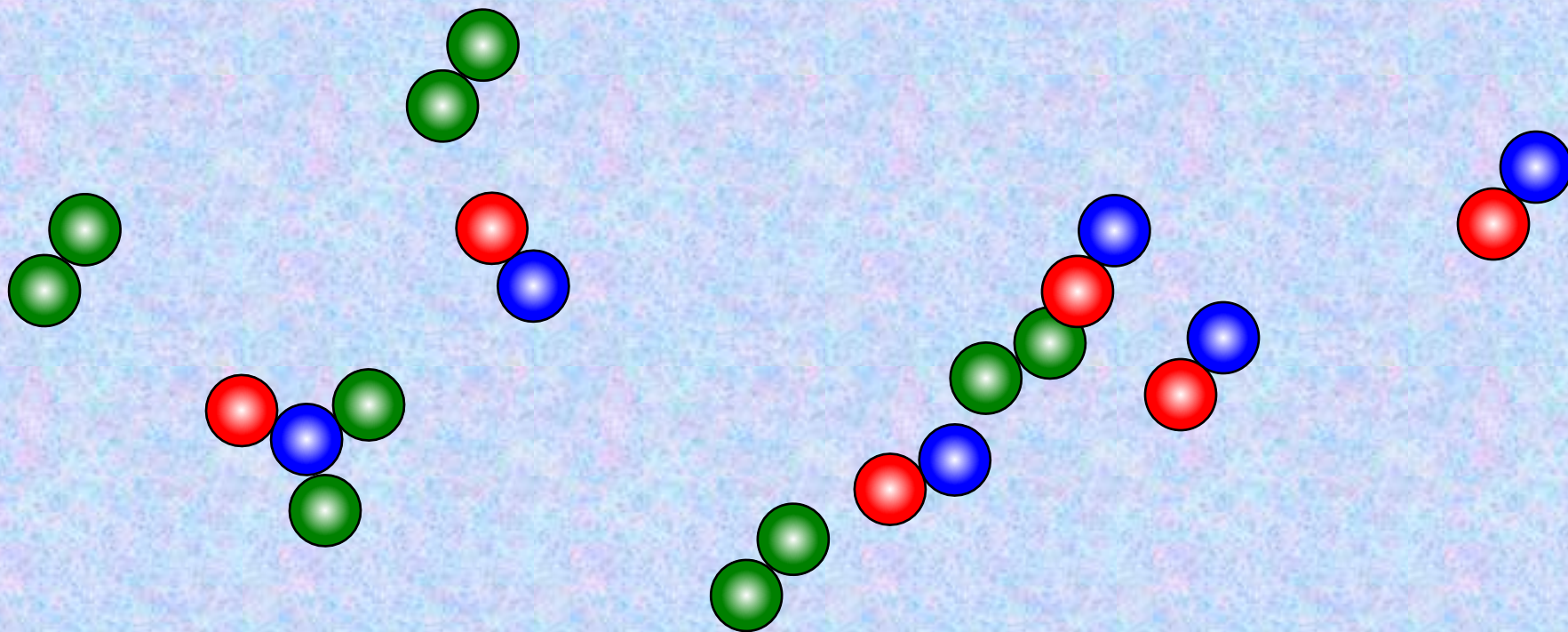
# Project 7.

Step 1.  $\text{NO} + \text{Cl}_2 \rightarrow \text{NOCl}_2$  (slow)

Step 2.  $\text{NOCl}_2 + \text{NO} \rightarrow 2 \text{NOCl}$  (fast)

---

Overall:  $2 \text{NO} + \text{Cl}_2 \rightarrow 2 \text{NOCl}$   $\Delta H = -157 \text{ kJ}$



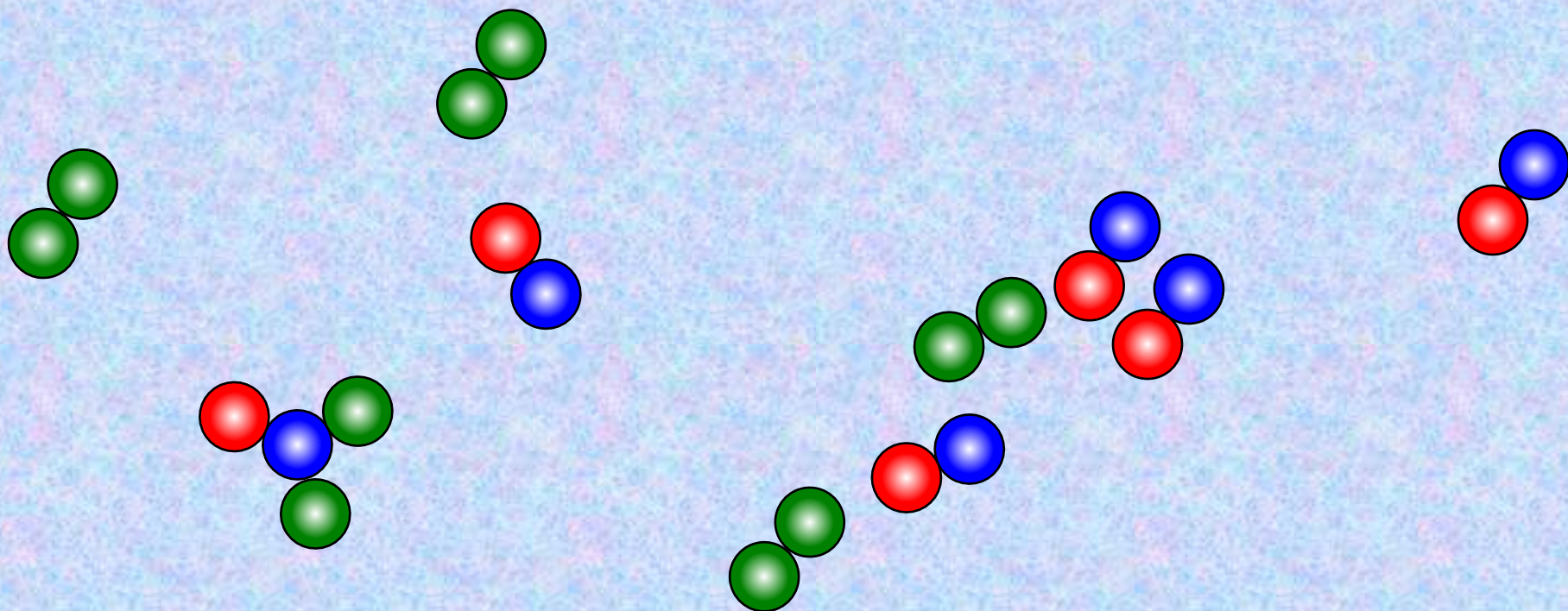
# Project 7.

Step 1.  $\text{NO} + \text{Cl}_2 \rightarrow \text{NOCl}_2$  (slow)

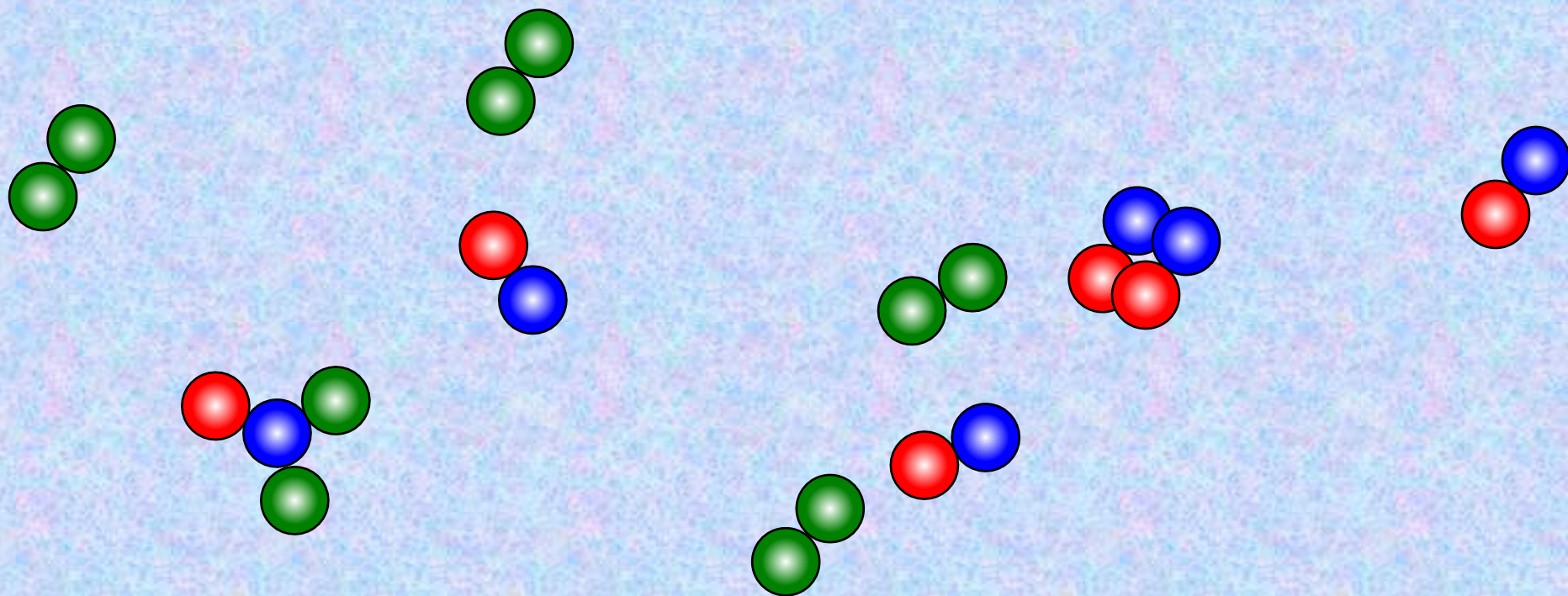
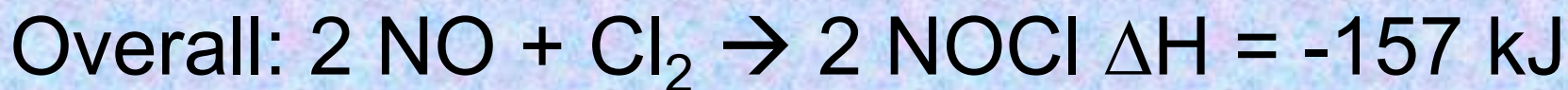
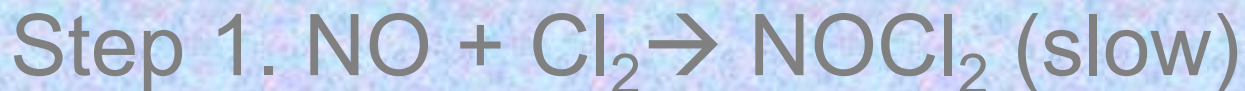
Step 2.  $\text{NOCl}_2 + \text{NO} \rightarrow 2 \text{NOCl}$  (fast)

---

Overall:  $2 \text{NO} + \text{Cl}_2 \rightarrow 2 \text{NOCl}$   $\Delta H = -157 \text{ kJ}$



# Project 7.





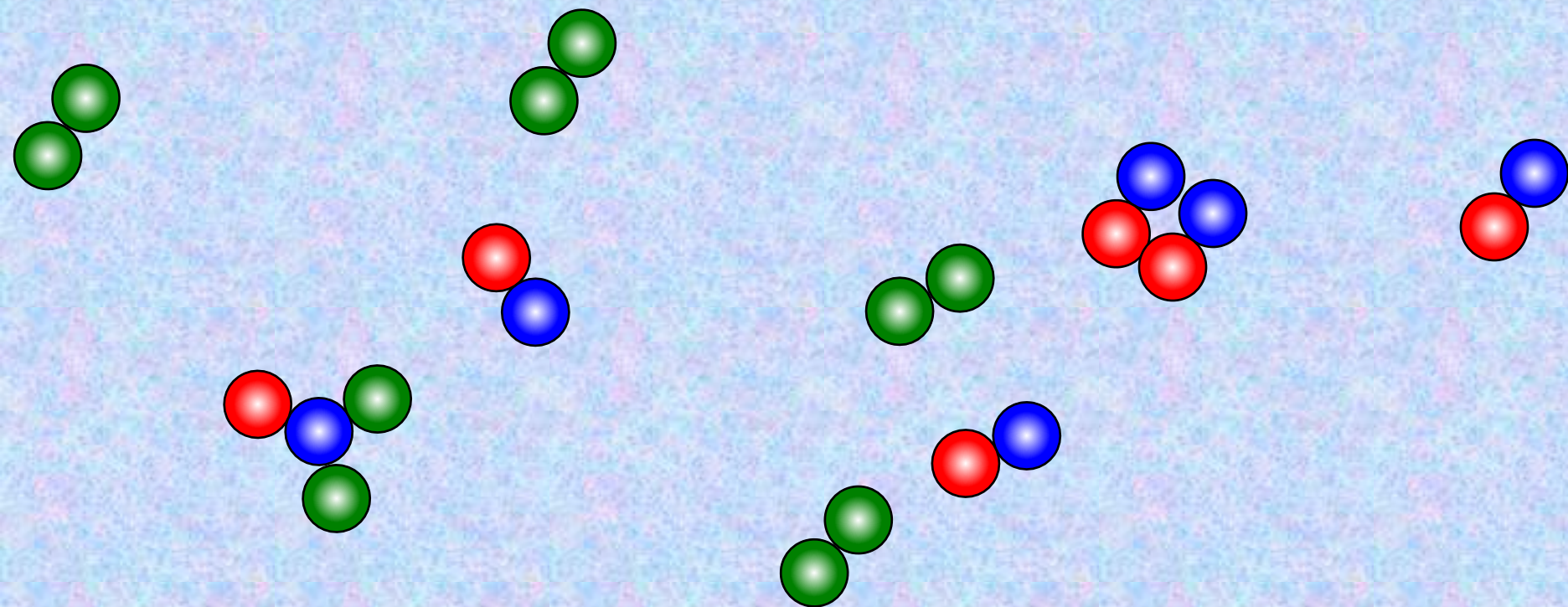
# Project 7.

Step 1.  $\text{NO} + \text{Cl}_2 \rightarrow \text{NOCl}_2$  (slow)

Step 2.  $\text{NOCl}_2 + \text{NO} \rightarrow 2 \text{NOCl}$  (fast)

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Overall:  $2 \text{NO} + \text{Cl}_2 \rightarrow 2 \text{NOCl}$   $\Delta H = -157 \text{ kJ}$



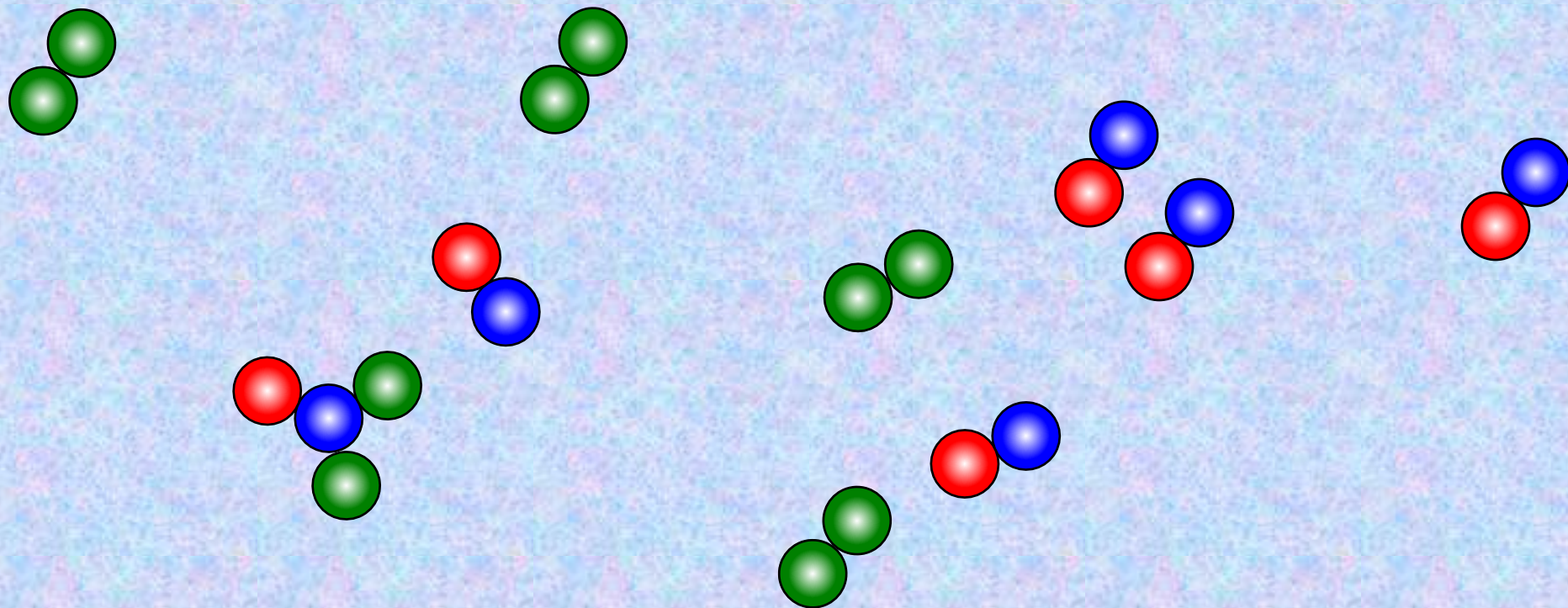
# Project 7.

Step 1.  $\text{NO} + \text{Cl}_2 \rightarrow \text{NOCl}_2$  (slow)

Step 2.  $\text{NOCl}_2 + \text{NO} \rightarrow 2 \text{NOCl}$  (fast)

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Overall:  $2 \text{NO} + \text{Cl}_2 \rightarrow 2 \text{NOCl}$   $\Delta H = -157 \text{ kJ}$



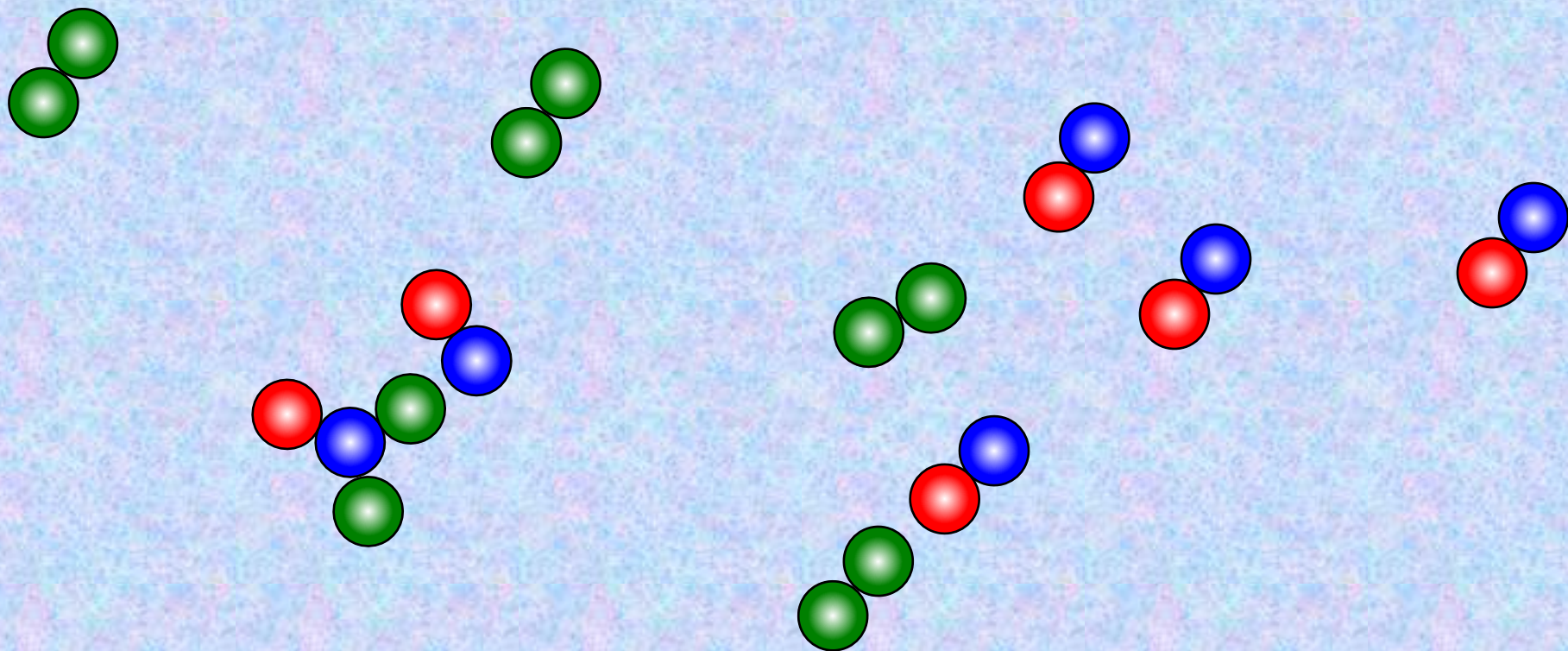
# Project 7.

Step 1.  $\text{NO} + \text{Cl}_2 \rightarrow \text{NOCl}_2$  (slow)

Step 2.  $\text{NOCl}_2 + \text{NO} \rightarrow 2 \text{NOCl}$  (fast)

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Overall:  $2 \text{NO} + \text{Cl}_2 \rightarrow 2 \text{NOCl}$   $\Delta H = -157 \text{ kJ}$



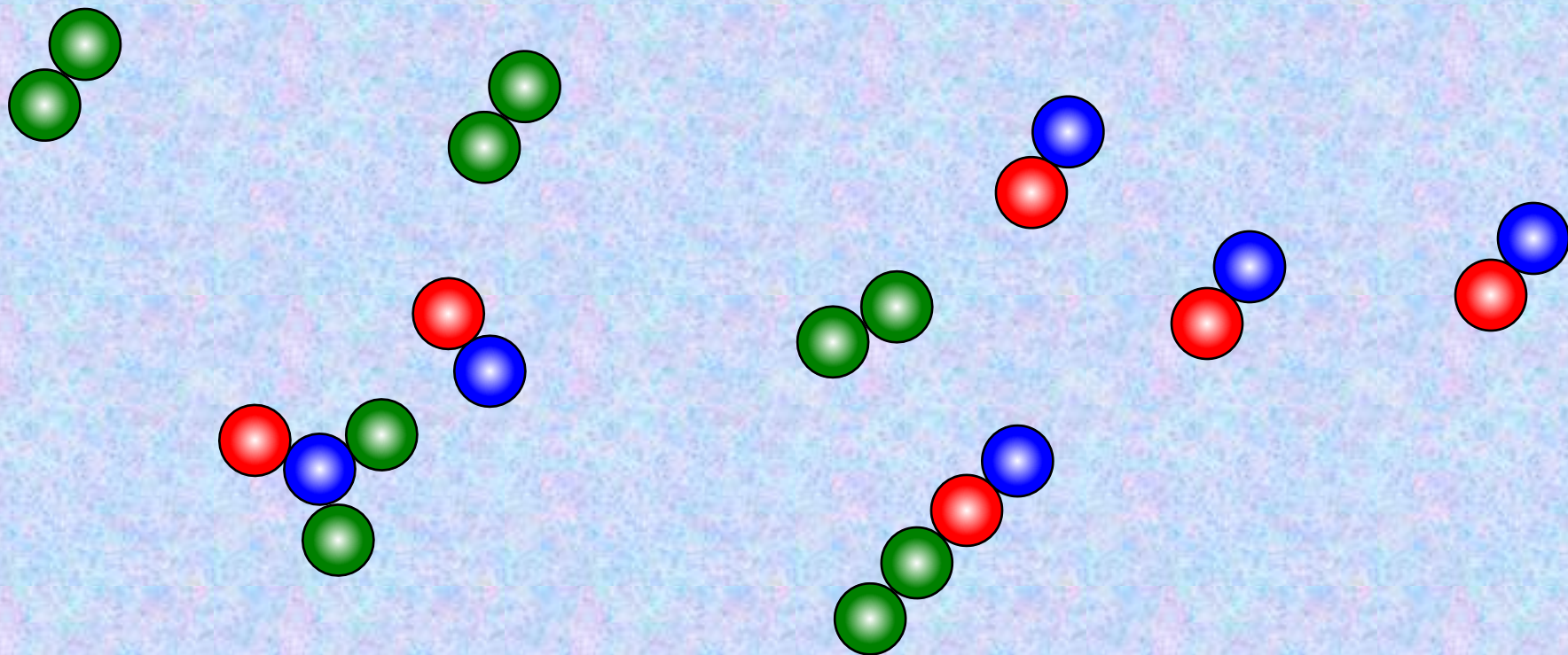
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Overall:  $2 \text{NO} + \text{Cl}_2 \rightarrow 2 \text{NOCl}$   $\Delta H = -157 \text{ kJ}$





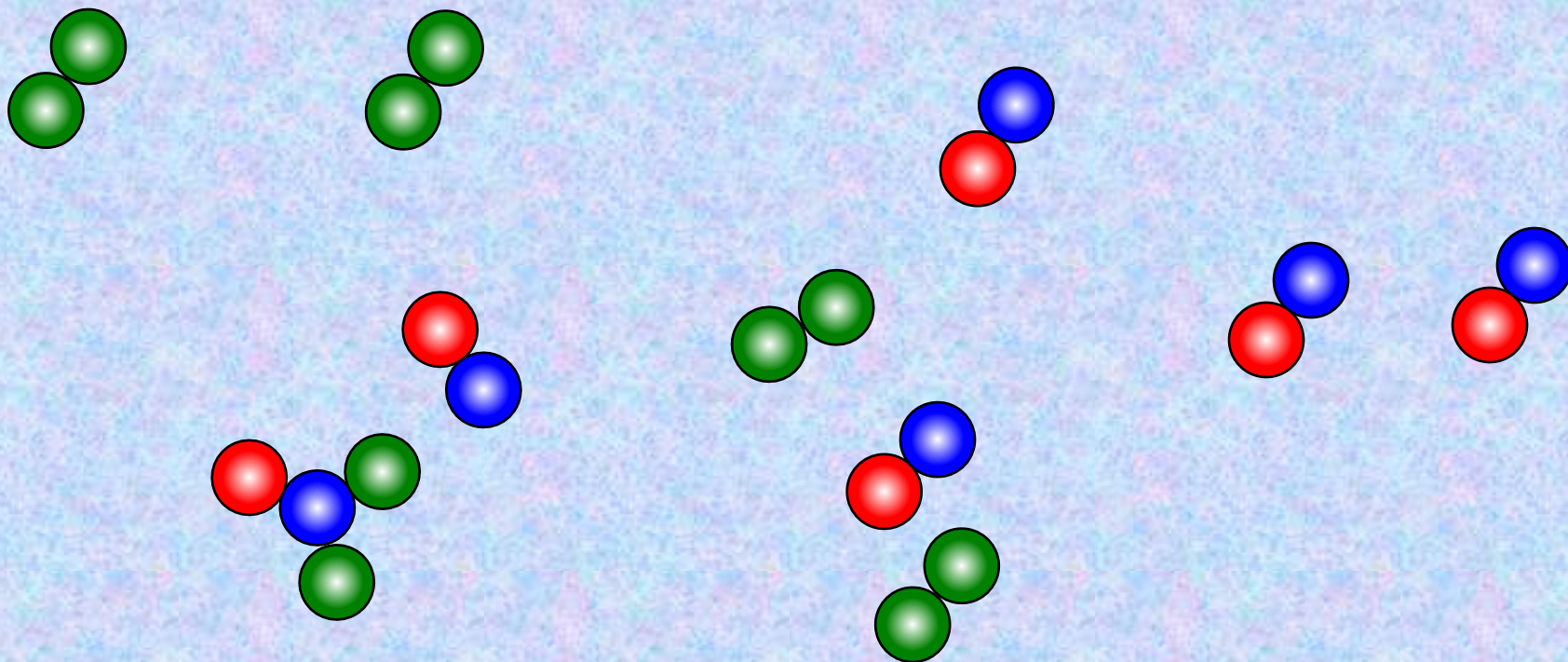
# Project 7.

Step 1.  $\text{NO} + \text{Cl}_2 \rightarrow \text{NOCl}_2$  (slow)

Step 2.  $\text{NOCl}_2 + \text{NO} \rightarrow 2 \text{NOCl}$  (fast)

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Overall:  $2 \text{NO} + \text{Cl}_2 \rightarrow 2 \text{NOCl}$   $\Delta H = -157 \text{ kJ}$



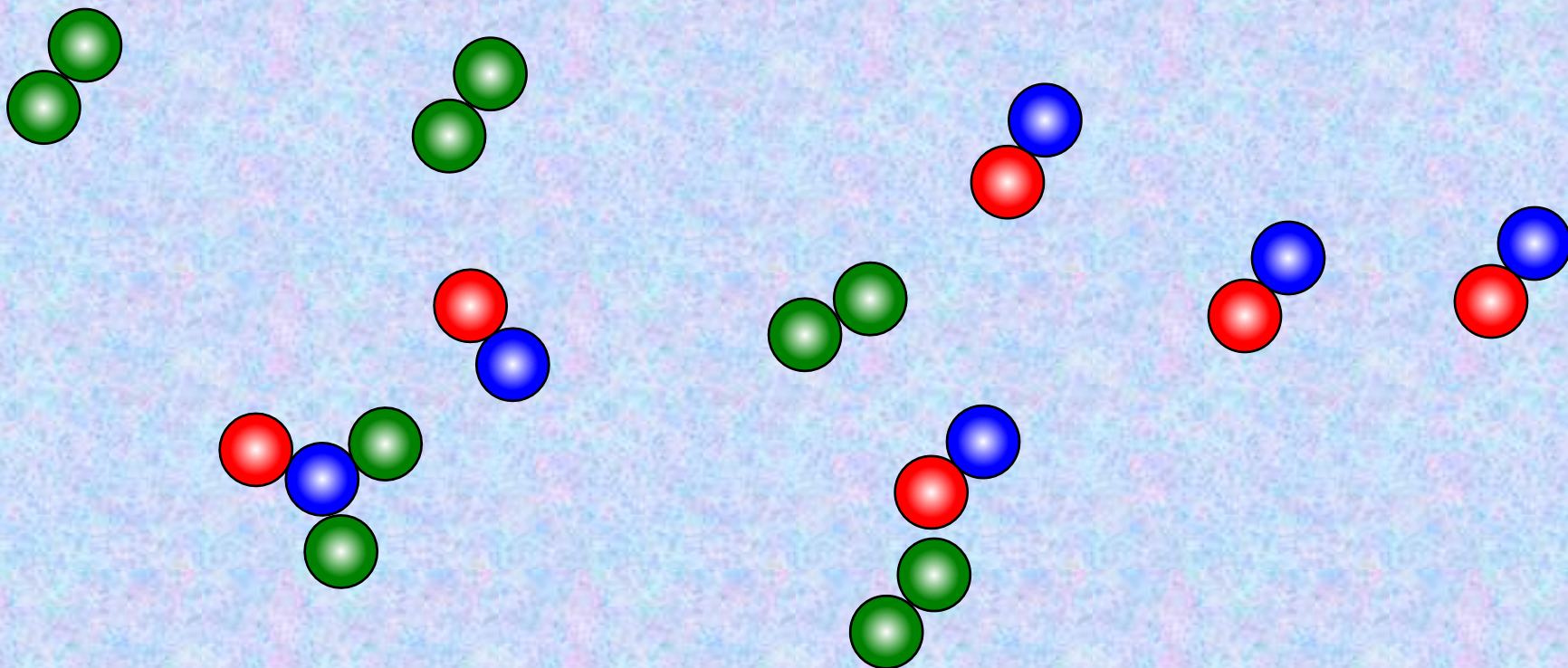
# Project 7.

Step 1.  $\text{NO} + \text{Cl}_2 \rightarrow \text{NOCl}_2$  (slow)

Step 2.  $\text{NOCl}_2 + \text{NO} \rightarrow 2 \text{NOCl}$  (fast)

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Overall:  $2 \text{NO} + \text{Cl}_2 \rightarrow 2 \text{NOCl}$   $\Delta H = -157 \text{ kJ}$



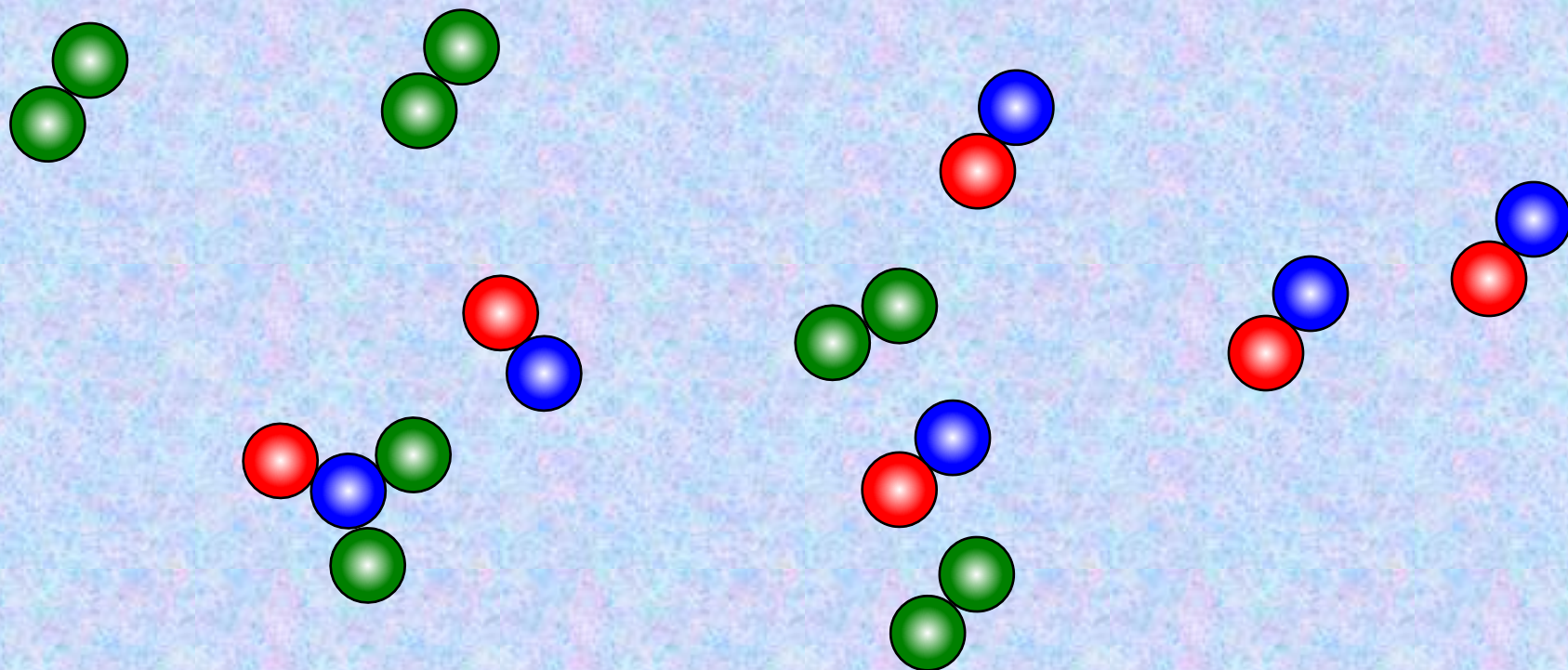
# Project 7.

Step 1.  $\text{NO} + \text{Cl}_2 \rightarrow \text{NOCl}_2$  (slow)

Step 2.  $\text{NOCl}_2 + \text{NO} \rightarrow 2 \text{NOCl}$  (fast)

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Overall:  $2 \text{NO} + \text{Cl}_2 \rightarrow 2 \text{NOCl}$   $\Delta H = -157 \text{ kJ}$



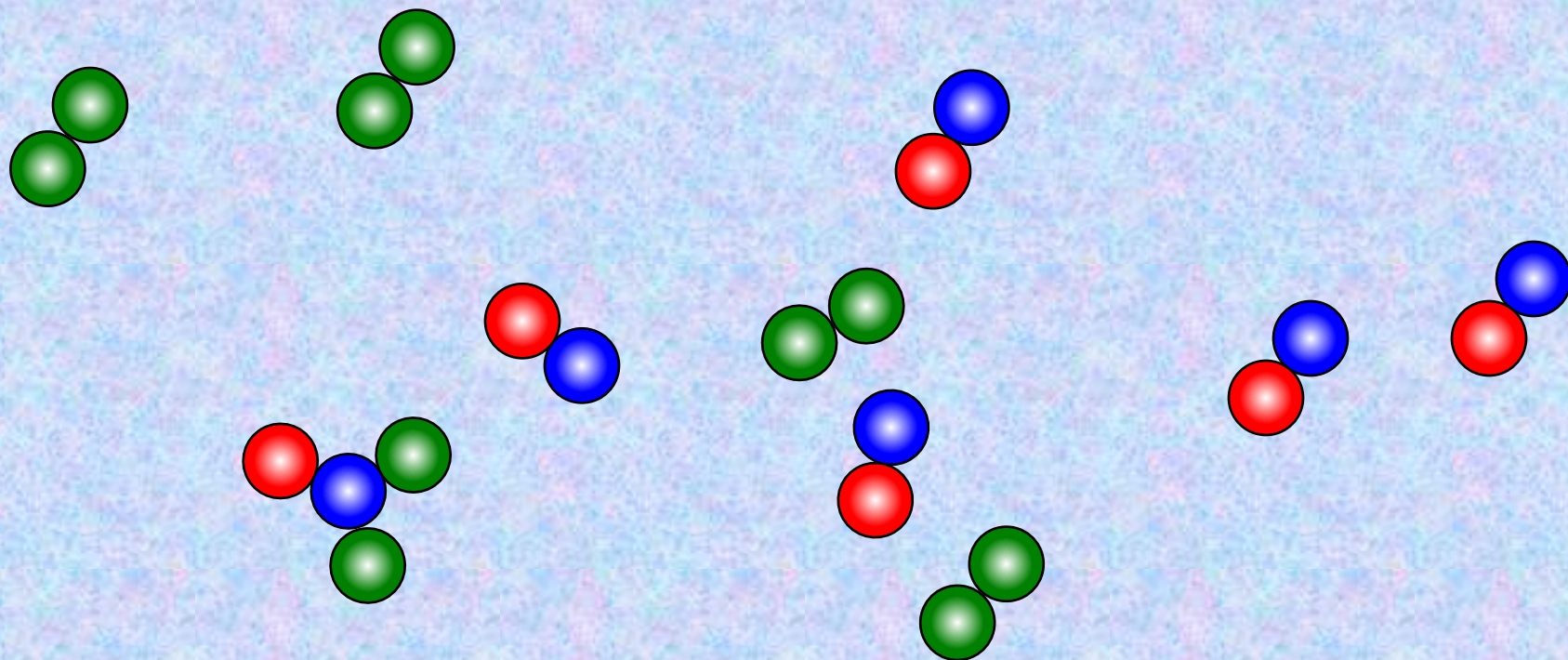
# Project 7.

Step 1.  $\text{NO} + \text{Cl}_2 \rightarrow \text{NOCl}_2$  (slow)

Step 2.  $\text{NOCl}_2 + \text{NO} \rightarrow 2 \text{NOCl}$  (fast)

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Overall:  $2 \text{NO} + \text{Cl}_2 \rightarrow 2 \text{NOCl}$   $\Delta H = -157 \text{ kJ}$





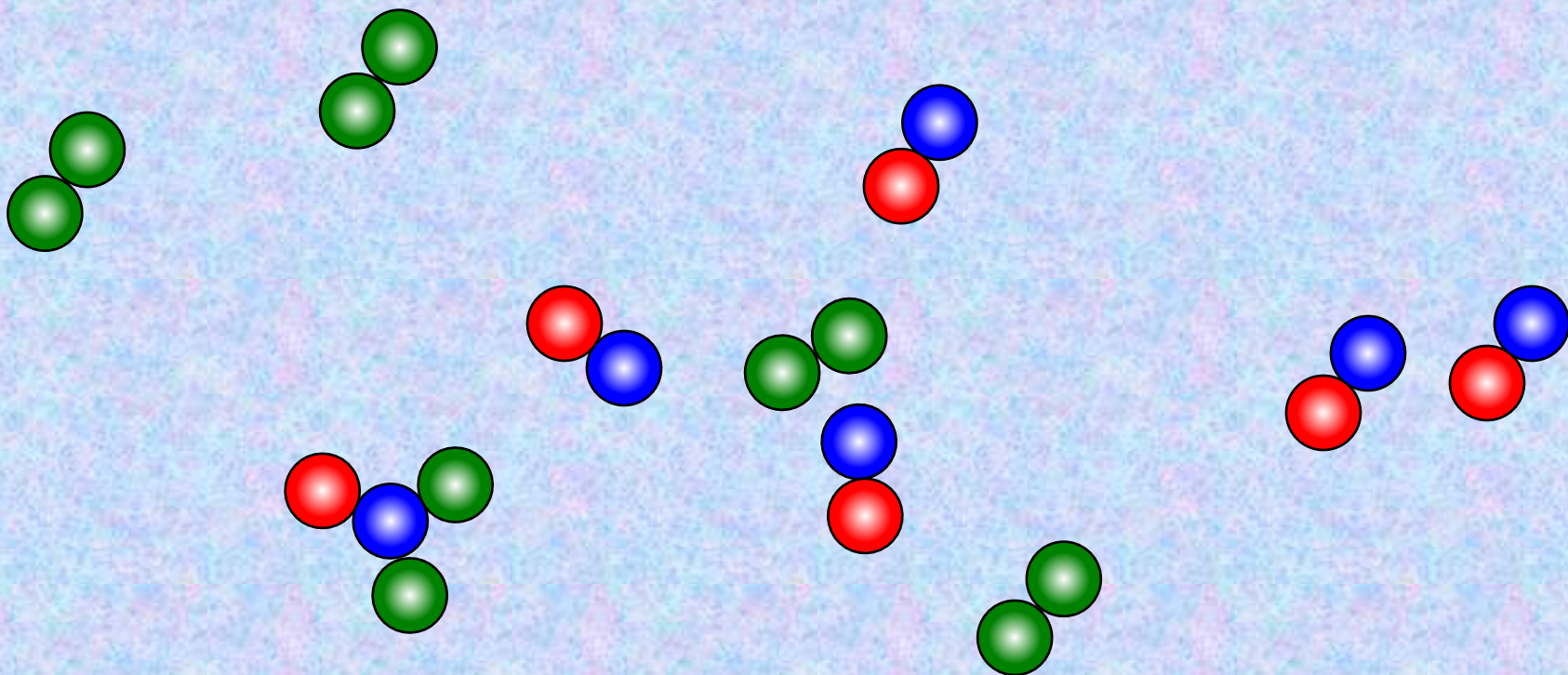
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Overall:  $2 \text{NO} + \text{Cl}_2 \rightarrow 2 \text{NOCl}$   $\Delta H = -157 \text{ kJ}$



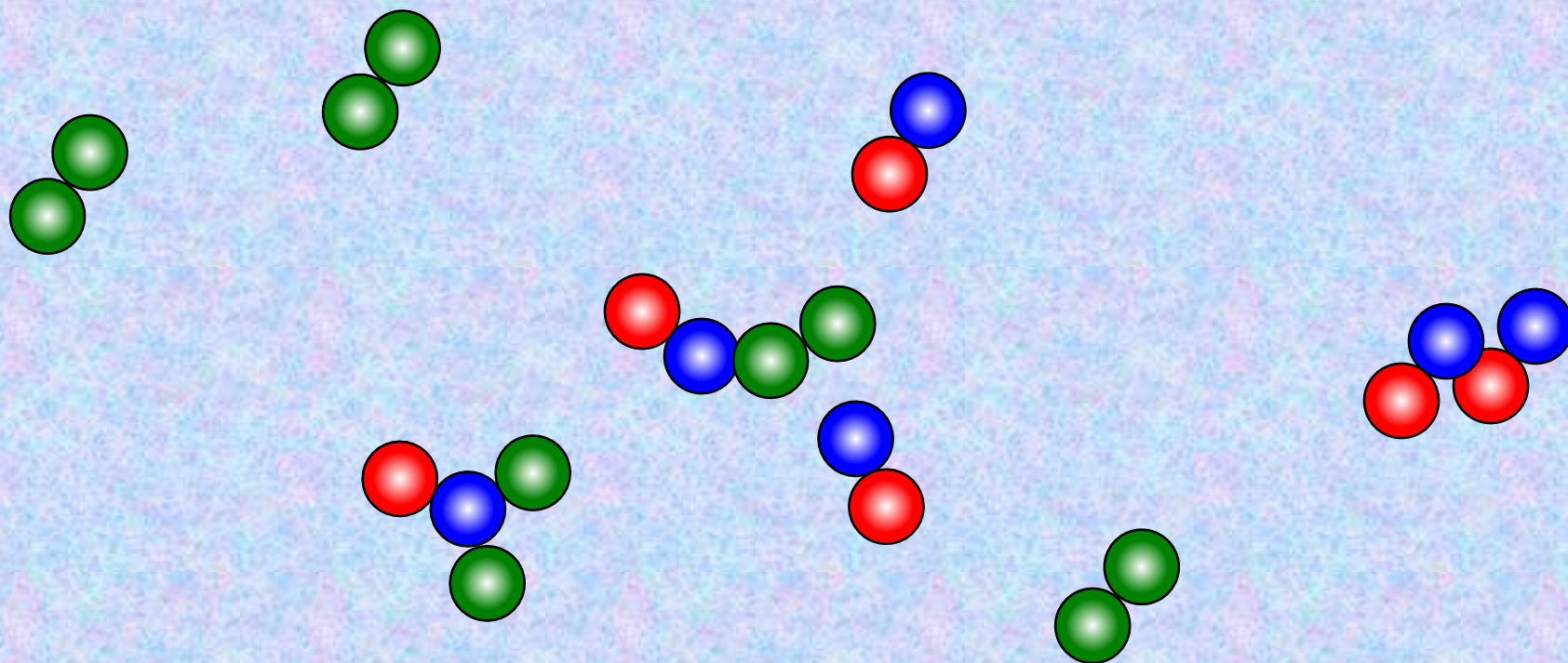
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Step 2.  $\text{NOCl}_2 + \text{NO} \rightarrow 2 \text{NOCl}$  (fast)

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Overall:  $2 \text{NO} + \text{Cl}_2 \rightarrow 2 \text{NOCl}$   $\Delta H = -157 \text{ kJ}$



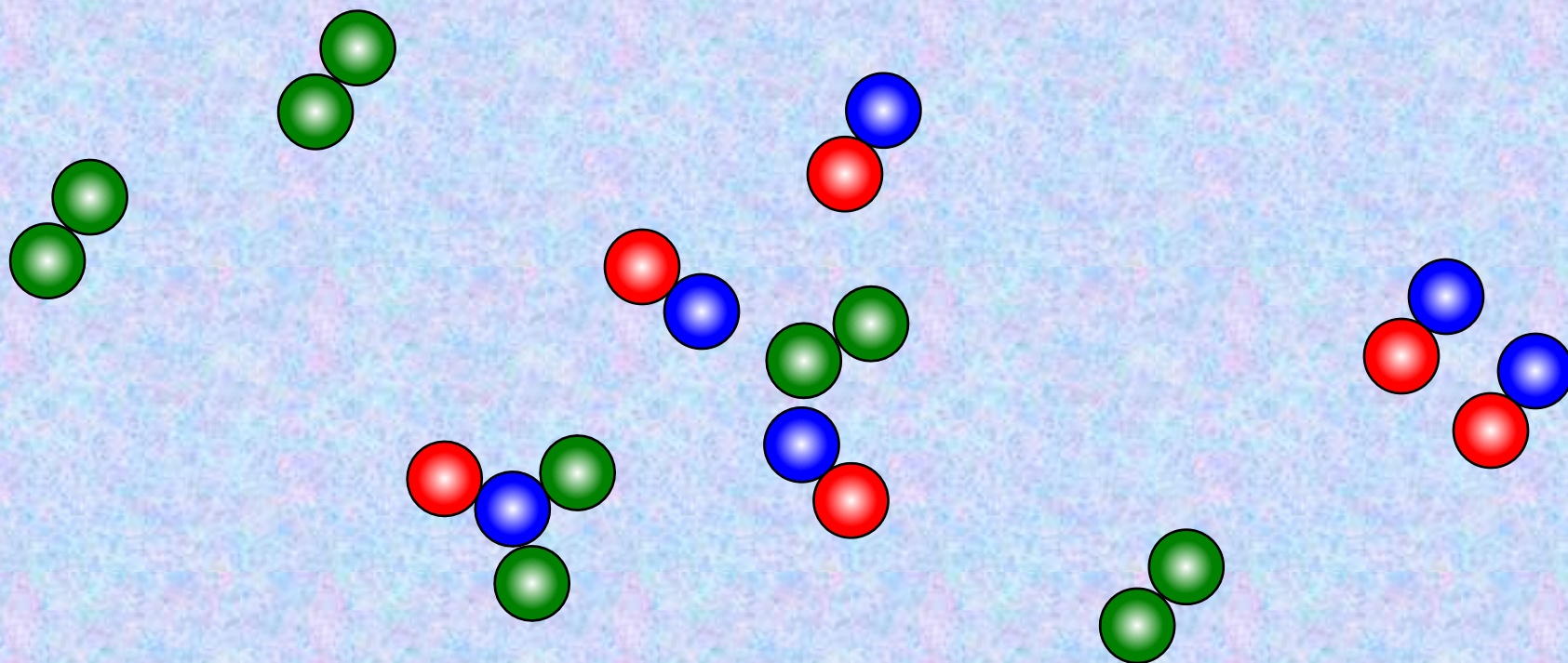
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Step 1.  $\text{NO} + \text{Cl}_2 \rightarrow \text{NOCl}_2$  (slow)

Step 2.  $\text{NOCl}_2 + \text{NO} \rightarrow 2 \text{NOCl}$  (fast)

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Overall:  $2 \text{NO} + \text{Cl}_2 \rightarrow 2 \text{NOCl}$   $\Delta H = -157 \text{ kJ}$



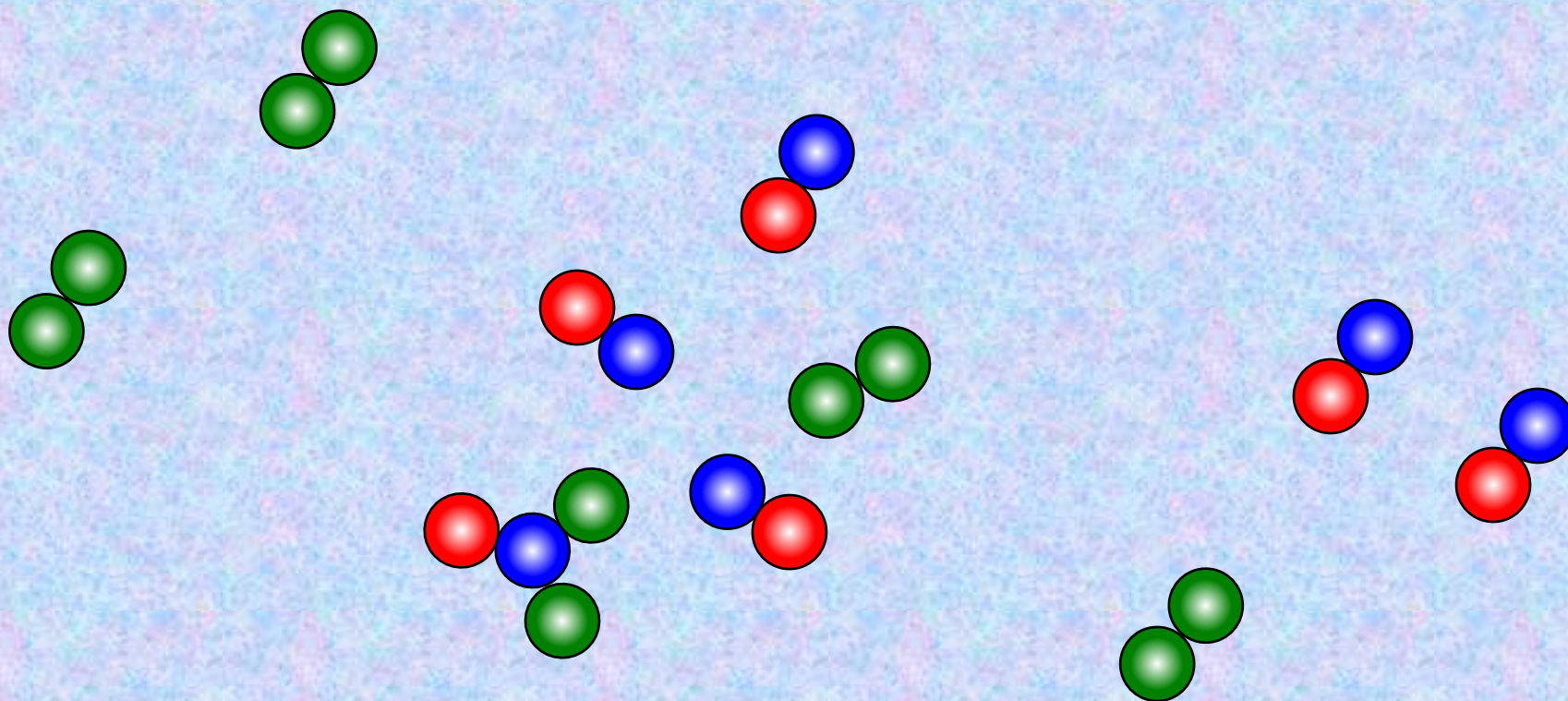
# Project 7.

Step 1.  $\text{NO} + \text{Cl}_2 \rightarrow \text{NOCl}_2$  (slow)

Step 2.  $\text{NOCl}_2 + \text{NO} \rightarrow 2 \text{NOCl}$  (fast)

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Overall:  $2 \text{NO} + \text{Cl}_2 \rightarrow 2 \text{NOCl}$   $\Delta H = -157 \text{ kJ}$





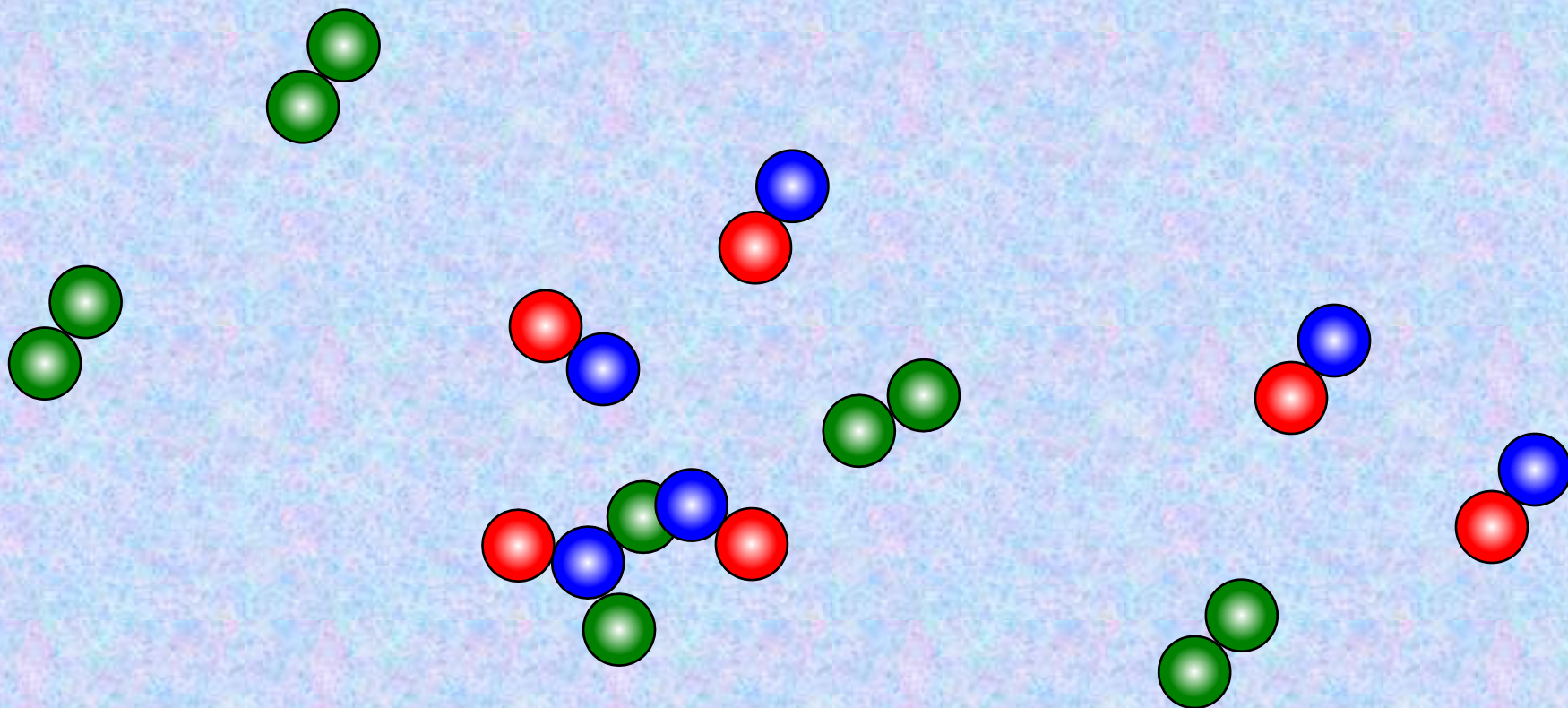
# Project 7.

Step 1.  $\text{NO} + \text{Cl}_2 \rightarrow \text{NOCl}_2$  (slow)

Step 2.  $\text{NOCl}_2 + \text{NO} \rightarrow 2 \text{NOCl}$  (fast)

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Overall:  $2 \text{NO} + \text{Cl}_2 \rightarrow 2 \text{NOCl}$   $\Delta H = -157 \text{ kJ}$



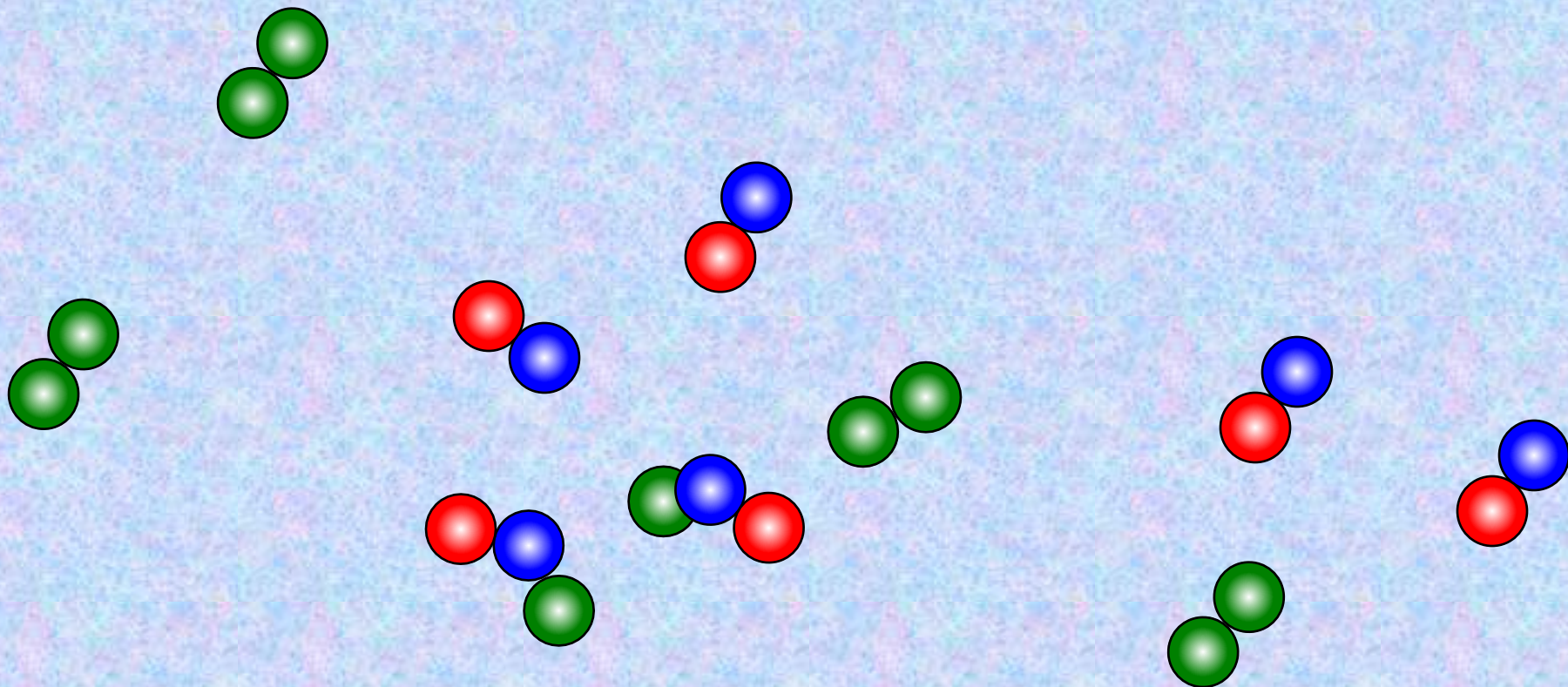
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Step 2.  $\text{NOCl}_2 + \text{NO} \rightarrow 2 \text{NOCl}$  (fast)

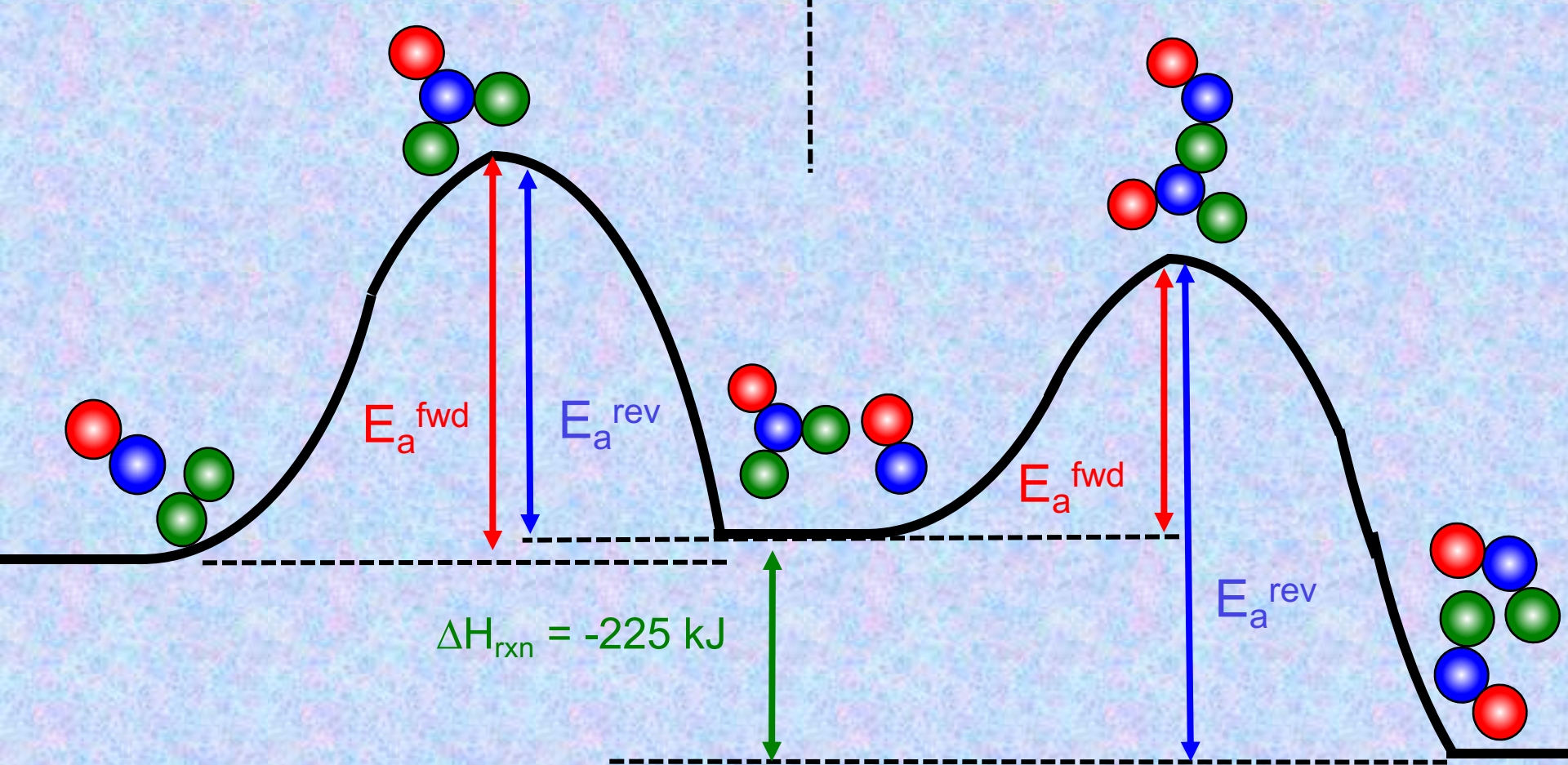
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Overall:  $2 \text{NO} + \text{Cl}_2 \rightarrow 2 \text{NOCl}$   $\Delta H = -157 \text{ kJ}$



Step 1.  $\text{NO} + \text{Cl}_2 \rightarrow \text{NOCl}_2$  (slow)

Step 2.  $\text{NOCl}_2 + \text{NO} \rightarrow 2 \text{NOCl}$  (fast)



$$\text{Rate} = k[\text{NO}]^1[\text{Cl}_2]^1$$



# Bryanna Bravo and Ashlyn Okada

