

$(5.55)$   $2.2\text{g } C_6H_4O_2$ ,  $\frac{7.854\text{ kJ}}{^\circ\text{C}}$ ,  $\begin{matrix} 23.44^\circ\text{C} \\ \downarrow \\ 30.57^\circ\text{C} \end{matrix}$   
 $(F_{ind})$   $\frac{\text{kJ}}{\text{g}}$ ,  $\frac{\text{kJ}}{\text{mole}}$   $\Rightarrow \Delta T$   $7.13^\circ\text{C}$

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$(\text{kJ/g})$ 

$7.854\text{ kJ}$	$7.13$
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 $2.2\text{g } C_6H_4O_2$ 
 $108\text{ g } C_6H_4O_2$   
 $\text{mole } C_6H_4O_2$

Oct 16-8:31 AM

### Hess's Law

Reactants  $\rightarrow I_1 \rightarrow I_2 \dots \rightarrow$  Products  
intermediate steps

## Jig Saw Puzzle

\* Fit items together to match final product E<sub>fn</sub>

Oct 16-8:55 AM

Given

①  $C(s) + O_2(g) \rightarrow CO_2(g) \quad \Delta H = -393.5 \text{ kJ}$

②  $CO(g) + \frac{1}{2} O_2(g) \rightarrow CO_2(g) \quad \Delta H = -283 \text{ kJ}$

Find  $\Delta H$  for  $C(s) + \frac{1}{2} O_2(g) \rightarrow CO(g)$

Want C(s) on (L) and 1 mole of it.

Want / CO on (R)

$C(s) + \cancel{\frac{1}{2} O_2(g)} \rightarrow \cancel{CO_2(g)} - 393.5 \text{ kJ}$

$\cancel{CO_2(g)} \rightarrow CO(g) + \cancel{\frac{1}{2} O_2(g)} + 283 \text{ kJ}$

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$C(s) + \frac{1}{2} O_2(g) \rightarrow CO(g) - 110.5 \text{ kJ}$

Oct 16-9:01 AM

①  $C_{\text{graphite}} + O_2 \rightarrow CO_2 \quad -393.5 \text{ kJ}$

②  $C_{\text{diamond}} + O_2 \rightarrow CO_2 \quad -395.4 \text{ kJ}$

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Find  $C_{\text{graphite}} \rightarrow C_{\text{diamond}} \quad \Delta H = ?$

$C_{\text{graphite}} + \cancel{O_2} \rightarrow \cancel{CO_2} - 393.5 \text{ kJ}$

$\cancel{CO_2} \rightarrow C_{\text{diamond}} + \cancel{O_2} + 395.4 \text{ kJ}$

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$+ 1.9 \text{ kJ}$

Oct 16-9:11 AM

$$S / 62 + 64$$

Hess's Law

Oct 16-9:16 AM