$\Delta U = q_V$ versus $\Delta H = q_P$

General Chemistry, CH102 Spring 2011

1. When a reaction takes place in aqueous solution, the water is part of the ...

0% 1. the system
0% 2. the surroundings
0% 3. both system and surroundings
0% 4. neither system nor surroundings

0 of 5

10 Countdown Timer On Slide

2. An endothermic reaction in aqueous solution ...

0% 1. cools the solution
0% 2. heats the solution
0% 3. Doesn't change the temperature

0 of 5

10 Countdown Timer On Slide

3. Compared to the cooling when an **endothermic** reaction takes place in an **open** container, when the reaction takes placed in a **sealed, rigid** container, ...

0% 1. the cooling will be greater
0% 2. the cooling will be the same
0% 3. the cooling will be smaller
0% 4. More information needed

0 of 5

10 Countdown Timer On Slide

4. What is true about the following reaction?
$NaHCO_3(s) + H_3O^+(aq) \rightarrow CO_2(g) + Na^+(aq) + 2\ H_2O(l)$

0% 1. Should be exothermic
0% 2. Should be endothermic
0% 3. Unable to say without further information

0 of 5

10 Countdown Timer On Slide

5. What is true about the following reaction in an **open** beaker?
$NaHCO_3(s) + H_3O^+(aq) \rightarrow CO_2(g) + Na^+(aq) + 2\ H_2O(l)$

0% 1. Work is done on the surroundings, $w < 0$.
0% 2. Work is done on the system, $w > 0$.
0% 3. No work is done.
0% 4. Unable to say without further information

0 of 5

10 Countdown Timer On Slide

6. What is true about the following reaction in a **sealed** beaker?
$NaHCO_3(s) + H_3O^+(aq) \rightarrow CO_2(g) + Na^+(aq) + 2\ H_2O(l)$

0% 1. Work is done on the surroundings, w < 0.
0% 2. Work is done on the system, w > 0.
0% 3. No work is done.
0% 4. Unable to say without further information

0 of 5

10 Countdown Timer On Slide

7. If an aqueous reaction is **exothermic**, as the reaction proceeds ...

0% 1. The solution should **get colder**
0% 2. The solution should **get warmer**
0% 3. There should be no change in temperature
0% 4. Unable to say without further information

0 of 5

10 Countdown Timer On Slide

8. If an aqueous reaction is **endothermic**, as the reaction proceeds ...

0% 1. The solution should **get colder**
0% 2. The solution should **get warmer**
0% 3. There should be no change in temperature
0% 4. Unable to say without further information

0 of 5

10 Countdown Timer On Slide

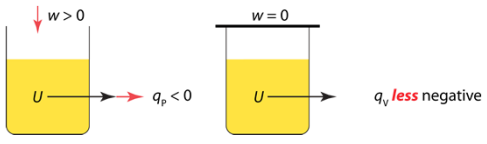
9. If a reaction is **exothermic**, and **work is done** on it (w > 0), typically because a **gas is consumed** as the reaction proceeds, ...

0% 1. the reaction solution should **get less warm** than if no work were done on it.
0% 2. the reaction solution should **get warmer** than if no work were done on it.
0% 3. there should be no change in warming compared with the w = 0 case.
0% 4. Unable to say without further information

0 of 5

10 Countdown Timer On Slide

$\Delta U = q_V$ versus $\Delta H = q_P$



Exothermic reaction that has **work done on it** will get **less hot** at constant volume.

ΔU = qV versus ΔH = qP 11 Copyright © 2011 Dan Dill dan@bu.edu

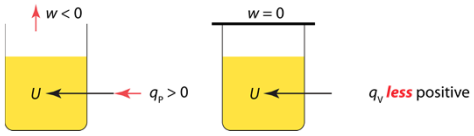
10. If a reaction is **endothermic**, and **does work** on the surroundings (w < 0), typically because a **gas is formed** as the reaction proceeds, ...

0% 1. the reaction solution should **get less cold** than if no work were done on it.
0% 2. the reaction solution should **get colder** than if no work were done on it.
0% 3. there should be no change in cooling compared with the w = 0 case.
0% 4. Unable to say without further information

0 of 5

10 Countdown Timer On Slide

$\Delta U = q_V$ versus $\Delta H = q_P$



Endothermic reaction that does **work on surroundings** will get **less cold** at constant volume.