

Chapter 6 Focus Questions

Section 6.1

- 1) Define energy.
- 2) What are the important characteristics of energy conserved?
- 3) Name the two classifications of energy
- 4) From figure 6.1 how is energy distributed?
- 5) Explain Frictional heating and give examples
- 6) _____ is property that reflects the random motions of particles in particular substances, however ____ involves the transfer of energy between two objects due to a temperature difference.
- 7) Define work
- 8) Explain state property
- 9) What is internal energy and what is it used for?
- 10) Do problems 21 through 24
- 11) State the equation used for work when dealing with gasses.
- 12) Do sample exercise 25 and 26
- 13) Do 27 and 28

Section 6.2

- 1) Define enthalpy and give the general equation for it.
- 2) What does E, P and V stand for in the equation
- 3) What is q_p in the equation and how do you obtain it?
- 4) NOTE: At constant pressure (where only PV work is allowed), the change in enthalpy of the system is equal to the energy flow as heat.
- 5) Do 33 and 35
- 6) What is calorimetry
- 7) $C = \text{heat absorbed/increase in temperature}$. What is this equation used for and what does the C in the equation stand for?
- 8) Explain specific heat capacity and give its units
- 9) Explain what molar heat capacity is and give its units
- 10) Why is the heat capacities of metals very different from that of water?
- 11) What is constant pressure calorimetry and give an example.
- 12) Look at the example from text on page 251. Explain what energy released by the reaction is equal to.
- 13) Do problems 45-48
- 14) Give equation of calorimetry experiments at constant volume
- 15) Do 49 and 50.

Section 6.3

- 1) State Hess's Law
- 2) What is Hess's Law used for?
- 3) What are the two characteristics of the change in H for a reaction?
- 4) Do 51,53,55,56,58

Section 6.4

- 1) Why can't change in H be obtained by direct measurement in a calorimeter?
- 2) What is the definition of standard enthalpy of formation and its sign?
- 3) What is standard state?
- 4) Write the conventional definitions of standard states
- 5) Summarize the pathway used in the example from text
- 6) Write the equation used to obtain change in H ?
- 7) Do problems 61 and 62
- 8) Do 65 and 67