

Name _____ Date _____ Period _____

Energy Ws #5: Phase Changes

1. How many kilocalories are required to heat 450.0 grams of liquid water from 18.0°C to 73.0°C ? How many kilojoules?
2. Calculate the amount of heat removed from 25.0 g of water at 60°C to decrease the temperature to 10°C .
3. How many kilocalories are required to heat up 30 grams of solid water (ice) from -45.0°C to liquid water at 100.0°C ?
4. How many kilocalories are needed if you heat 200g of solid water from -25°C to 100°C , (now gaseous water)?
5. You have 10 g of solid water at an initial temperature of -10°C . You add 800 cal of heat. What is the final temperature and state of the water?
6. You have 40.0 g of liquid water at an initial temperature of 10°C . 1600 calories of heat is added. What is the final temperature and state of the water?
7. How much energy in kilocalories is required to change a block of solid ice at 0°C weighing 175.2g , to steam at 100°C ?
8. How many calories are needed to change 55.0g of liquid water at 0°C to gas at 100°C ?
9. 8,000 calories are absorbed by 30.0g of solid water. The initial temperature is -30°C . What is the final temperature and state of matter?
10. 7.0 kcal are absorbed by 50.0g of water, with an initial temperature of -5°C . What is the final temperature and state of the water?