Worksheet: Changes of State Key

1. Identify the following phase changes:

a. water turns to ice — freezing

b. in a warm room, glasses fog up — condensation

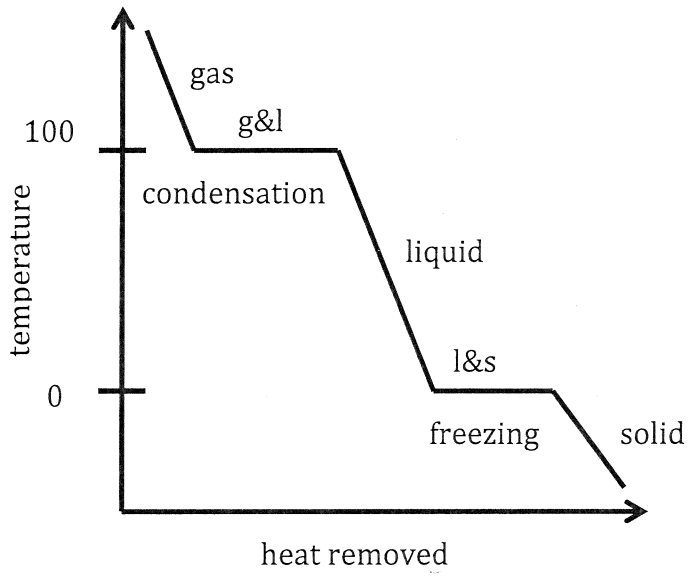
c. dry-ice in an ice cream truck disappears — sublimation

d. wet clothes dry on a clothesline — evaporation

2. Calculate how many calories are released when 42 g of water is condensed. Heat of vaporization of water is 540 cal/g.

$$42\text{ g } H_2O \times \frac{540\text{ cal}}{1\text{ g } H_2O} = \boxed{23{,}000\text{ cal or } 2.3\times10^4\text{ cal}}$$

3. Cooling Curve of Water



a. What is the state of water at 15°C? liquid

b. What is the freezing point of water? 0°C

c. What is the state of water at -5°C? solid

d. What is the condensation point of water? 100°C

e. Which states are present at 100°C? gas & liquid