

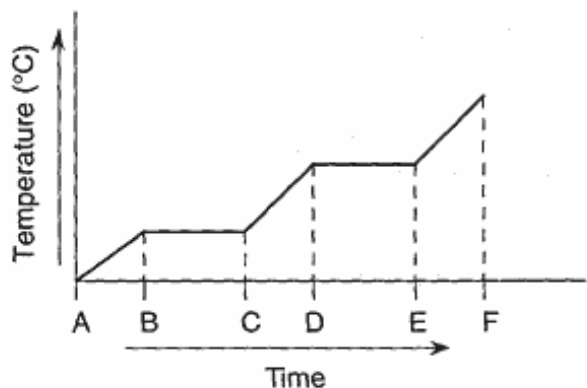
1. What is the total amount of heat required to vaporize 1.00 gram of $\text{H}_2\text{O}(\ell)$ at $100.^\circ\text{C}$ and 1 atmosphere?

- A) 4.18 J B) 334 J
C) 373 J D) 2260 J

2. The heat of fusion is defined as the energy required at constant temperature to change 1 unit mass of a

- A) gas to a liquid B) gas to a solid
C) solid to a gas D) solid to a liquid

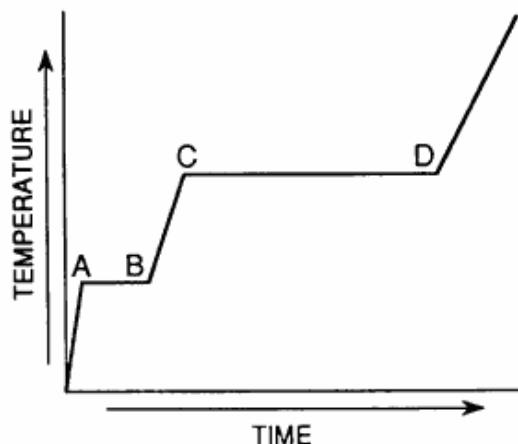
3. The diagram below represents the uniform heating of a substance that is a solid at Time *A*.



Between which times could the heat of fusion be determined?

- A) *A* and *B* B) *B* and *C*
C) *C* and *D* D) *E* and *F*

4. In the heating curve shown below, heat is applied to a solid substance at a constant rate.



What accounts for the fact that segment *CD* is longer than segment *AB*?

- A) Boiling occurs at a higher temperature than melting.
B) The heat of vaporization is greater than the heat of fusion.
C) Average kinetic energy increases at a greater rate during boiling than during melting.
D) Potential energy is being released during boiling.

5. The heat of fusion for ice is 333.6 Joules per gram. Adding 333.6 Joules of heat to one gram of ice at STP will cause the ice to

- A) increase in temperature
B) decrease in temperature
C) change to water at a higher temperature
D) change to water at the same temperature

6. What is the minimum number of kiloJoules needed to change 40.0 grams of water at 100°C to steam at the same temperature and pressure?

- A) 1,810 kJ B) 90.4 kJ
C) 2.26 kJ D) .400 kJ

7. What is the minimum number of Joules needed to change 10.0 grams of ice at 0°C to water?

- A) 167 J B) 334 J
C) 3340 J D) 1670 J

8. When 20.0 grams of a substance is completely melted at its melting point, 820. Joules are absorbed. What is the heat of fusion of this substance?

A) 41.0 J/g

B) 800. J/g

C) 840. J/g

D) 16,400 J/g