(1) Heat capacity

The quantity of heat required to raise the temperature of a substance by one degree. Units: $\rm J/\rm K$

(2) Specific heat capacity

The quantity of heat required to raise the temperature of unit mass of a substance by one degree. Units: J/(kg K)

(3) Molar heat capacity

The quantity of heat required to raise the temperature of unit mole of a substance by one degree. Units: J/(mol K)

(4) Specific heat capacity at constant pressure

The quantity of heat required to raise the temperature of unit mass of a substance by one degree at constant pressure. Units: J/(kg K)

(5) Specific heat capacity at constant volume

The quantity of heat required to raise the temperature of unit mass of a substance by one degree at constant volume. Units: J/(kg K)

(6) Molar heat capacity at constant pressure

The quantity of heat required to raise the temperature of unit mole of a substance by one degree at constant pressure. Units: J/(mol K)

(7) Molar heat capacity at constant volume

The quantity of heat required to raise the temperature of unit mole of a substance by one degree at constant volume. Units: J/(mol K)

Note: for Gases, $C_P > C_V$; for liquids and solids, $C_P = C_V$