

Heat Capacity of a substance is a measure of how well the substance stores heat.

It is defined as the amount of heat energy necessary to raise the temperature of a material by 1 Celcius degree.

Thus, materials with large heat capacities, like water, hold heat well - their temperature won't rise much for a given amount of heat - whereas materials with small heat capacities, like copper, don't hold heat well - their temperature will rise significantly when heat is added.

Specific Heat (aka specific heat capacity) is the amount of heat energy necessary to raise the temperature of 1 gram of a material by 1 Celcius degree.

Water has one of the highest specific heats of any normal material at 1 calorie/gram·°C or 4.168 Joules/gram·°C

Molar Heat capacity is the same just Joules/mole·°C instead of Joules/gram·°C