

**SYSTEM:** A portion of the universe enclosed by a *boundary*.

**BOUNDARY:** A closed surface (not necessarily fixed in shape or volume) that surrounds a system.

The system can exchange energy with other systems or its *surroundings*.

UNIVERSE = System + Surroundings

**ISOLATED SYSTEM:** No energy exchanged between the system and its surroundings.

**CLOSED SYSTEM:** No mass is exchanged between the system and its surroundings.

**TEMPERATURE:** Degree of “hotness” as measured on some numeric scale.  
A measure of the average kinetic energy per molecule in a system.

**HEAT:** Energy that is exchanged between a system and its surroundings because of differences in temperature only.

**INTERNAL ENERGY:** The total store of all the kinetic and potential energies of all the atoms/molecules in a system.