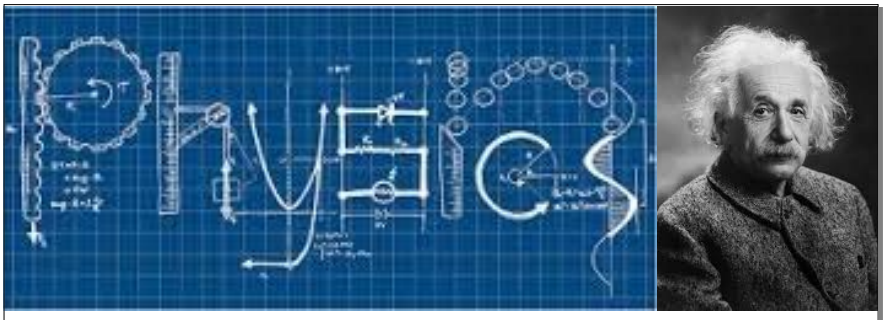
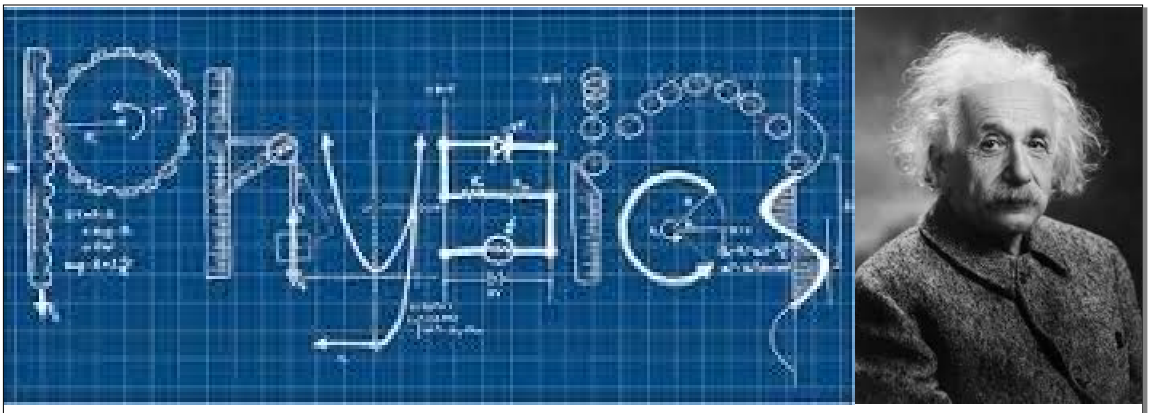


2.10 Laws of Thermodynamics

Open system: exchanges both *matter* and *energy* with its surroundings.

Closed system: exchanges *energy* but *not matter* with its surroundings

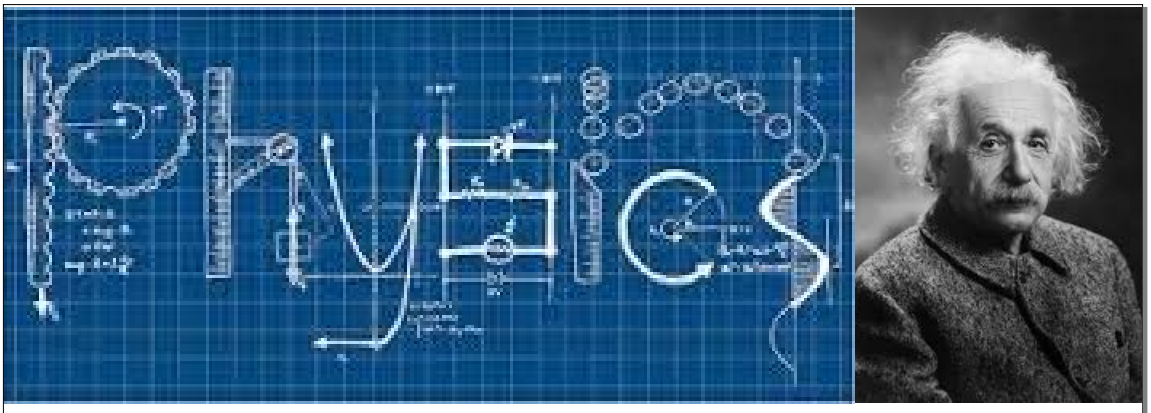
Isolated system: *does not* exchange *matter* or *energy* with its surroundings



First Law of Thermodynamics

- total energy, including heat, in a system and its surroundings remains constant

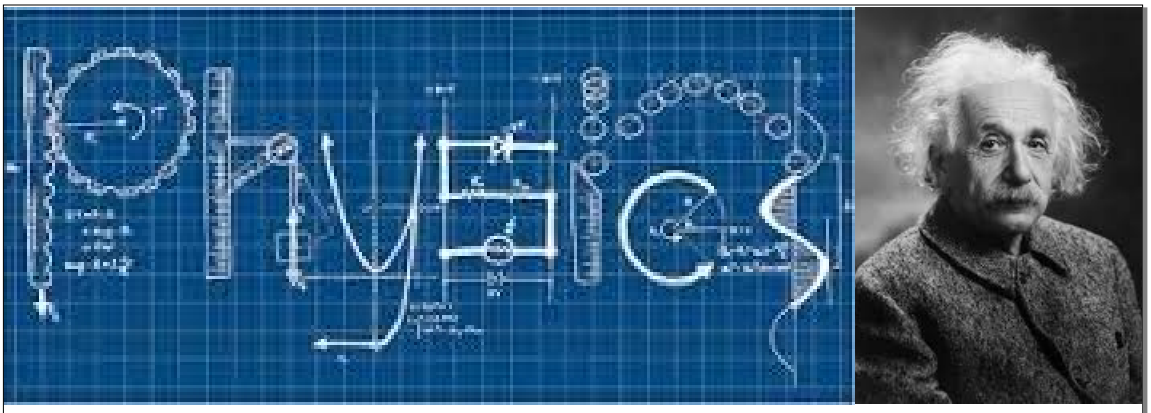
- heat added to the a system can be transferred to a different form of energy



Second Law of Thermodynamics

- heat naturally flows from a hot object to a cold object

- no system is 100% efficient(perpetual motion machine), energy is lost, usually due to heat/friction



http://study.com/academy/lesson/first-law-of-thermodynamics-law-of-conservation-of-energy.html

http://study.com/academy/lesson/second-law-of-thermodynamics-entropy-and-systems.html