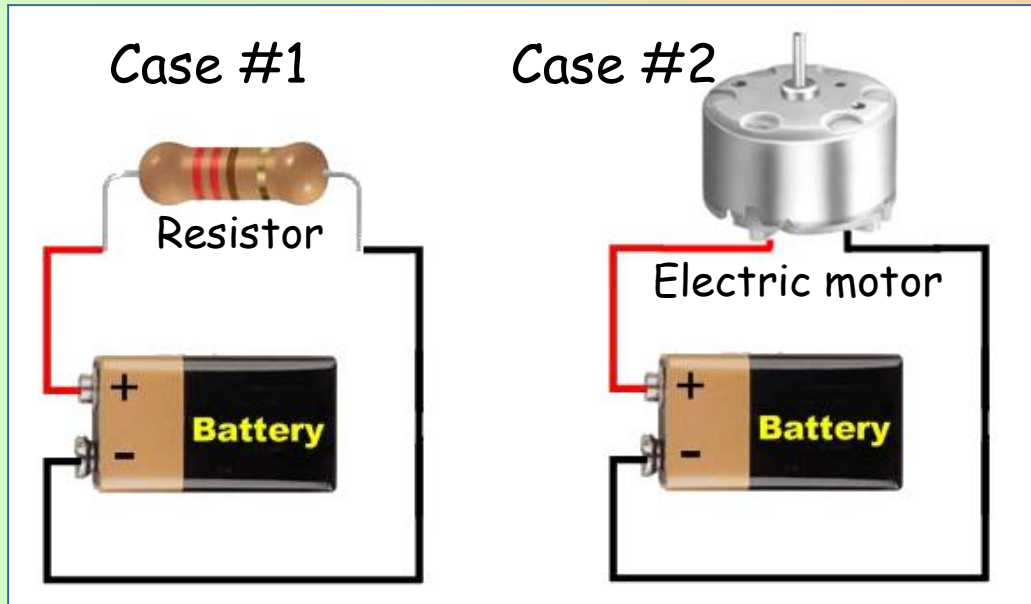


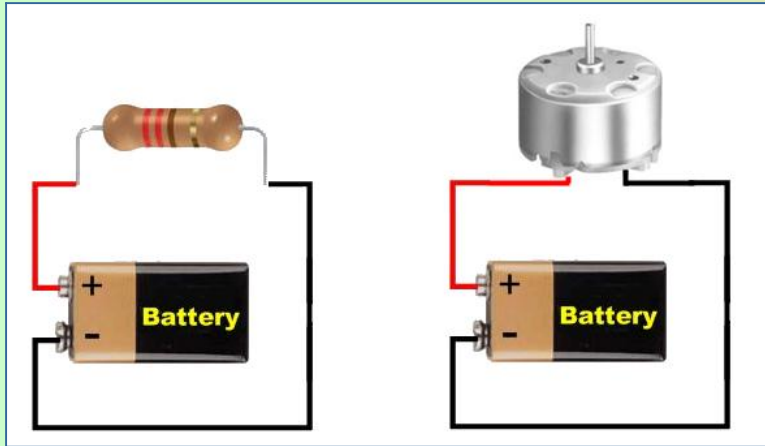
The First Law of Thermodynamics



Choose the battery as our thermodynamic system.

- What type of system is?
- In both cases the battery's change in energy is the same (from the fully charged state to totally discharged state). Draw a energy diagram specifying graphically the energetic levels, heat and work in both cases.
- Could we say that the final energy of the battery is zero?

The First Law of Thermodynamics



a) The battery is a closed system

c) The final energy is not zero: there is energy in each atom and molecule even though the battery does not any useful work (discharged)

