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1. **Itemize what heterotrophic cells do with the free energy obtained from the degradation of molecules**

Heterotrophic cells us the energy for;

1. Execution of mechanical work, such as muscle contraction
2. Transportation of biomolecules and ions across membrane in the direction of increasing concentration. A particular type of molecule serve as the link between energy producing reaction, e.g Adenosine Triphosphate serve as a major linking intermediate between energy producing and energy requiring process in the cell i.e ATP serves as a link between exergonic and endergonic chemical reactions. ATP has been shown to be present in all kinds of cells, and has been found to participate in several cell activities
3. **Energy is present in a variety of forms which are interconverted. Whenever energy is used for executing a task or when one form of energy is converted into another, there is a loss of energy. This has led to two fundamental laws of thermodynamics, state them.**
4. 1st law of thermodynamics: This law states that in any physical or chemical change, the total energy of a system including its surroundings remain constant. Consequently, whenever energy is used for executing a task or is transformed from one kind into another, the total amount of energy is unchanged
5. 2nd law of thermodynamics: This law states that the total entropy of a system must increase if a process is to occur spontaneously.