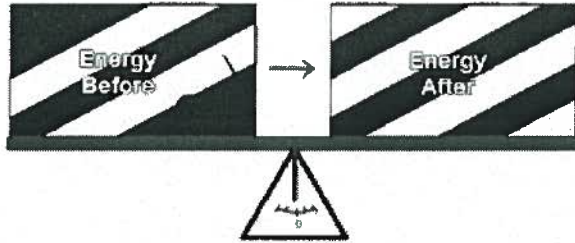


Guided Notes: ATP & Energy

What is ENERGY? *the ability to do work.*

1st Law of Thermodynamics - Conservation of Energy



"Can't create or destroy"

The First Law of Thermodynamics
Energy transformation

2nd Law of Thermodynamics - Entropy

- Entropy = "loss of **USABLE** energy, usually heat energy

when energy transfers forms

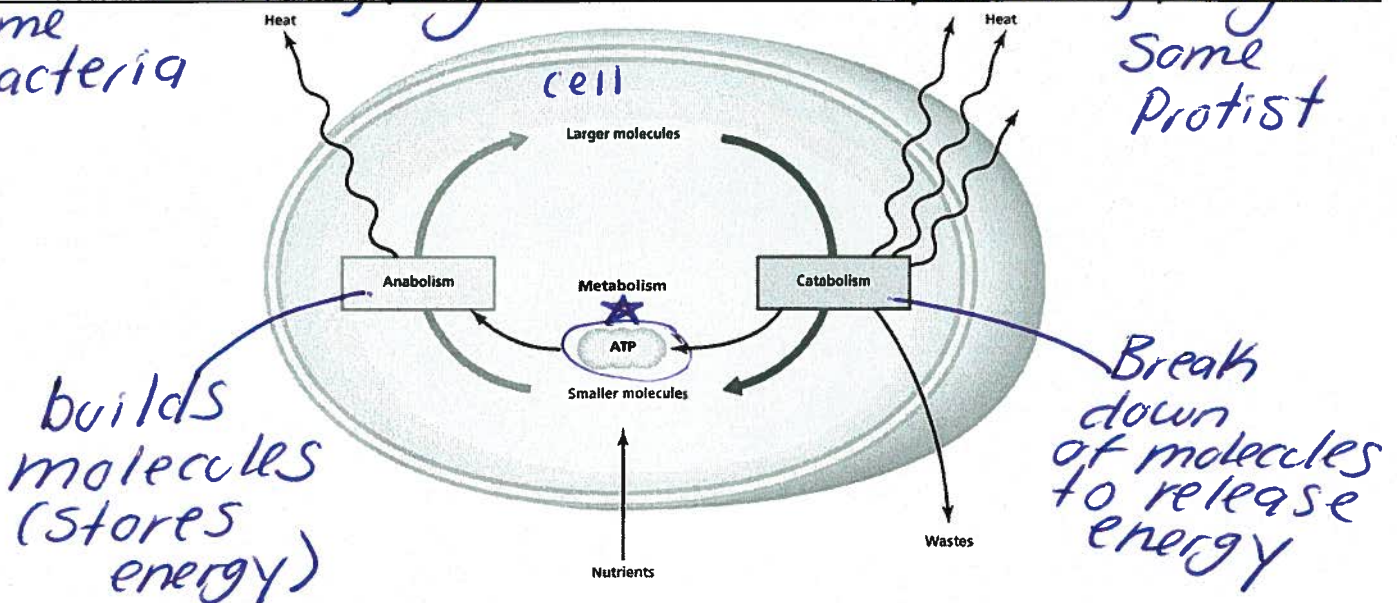
All organisms require **ENERGY**.

How do organisms get their energy? *"Food"*

Autotrophs <i>Starts w/ SUN*</i>	Heterotrophs
Organisms that make their own Food (chemical energy)	Organisms that consume food.
Examples: <i>Plants, Algae</i>	Examples: <i>Animals, Fungus</i>

some bacteria

Some Protist



What is metabolism? *Energy needed for the body/cell's chemical reactions*

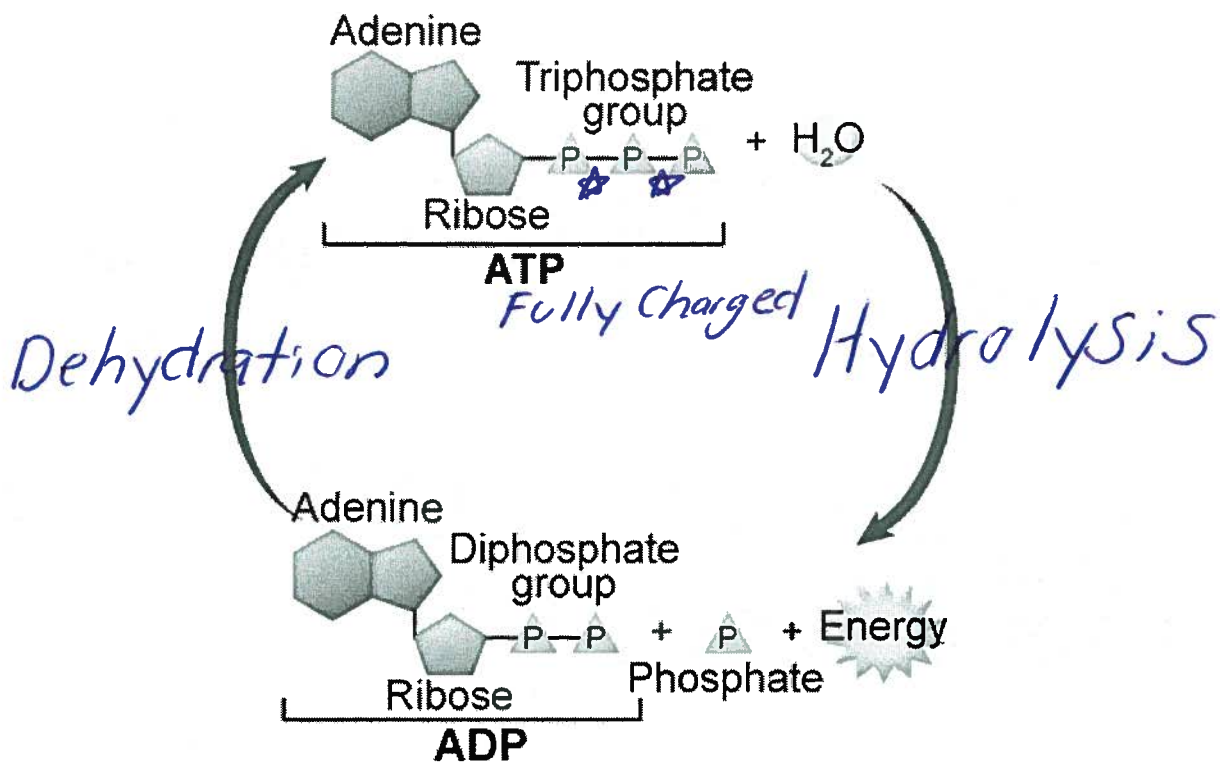
Metabolic Pathways

1. Anabolic (Photosynthesis)
2. Catabolic (Cellular Respiration)

What is ATP? Adenosine Triphosphate

Energy molecule of life

Energy is in the *Phosphate bonds of ATP.



ADP (Adenosine Diphosphate) *less energy*
~50% charged

AMP (Adenosine Monophosphate) *least energy*
~25% charged