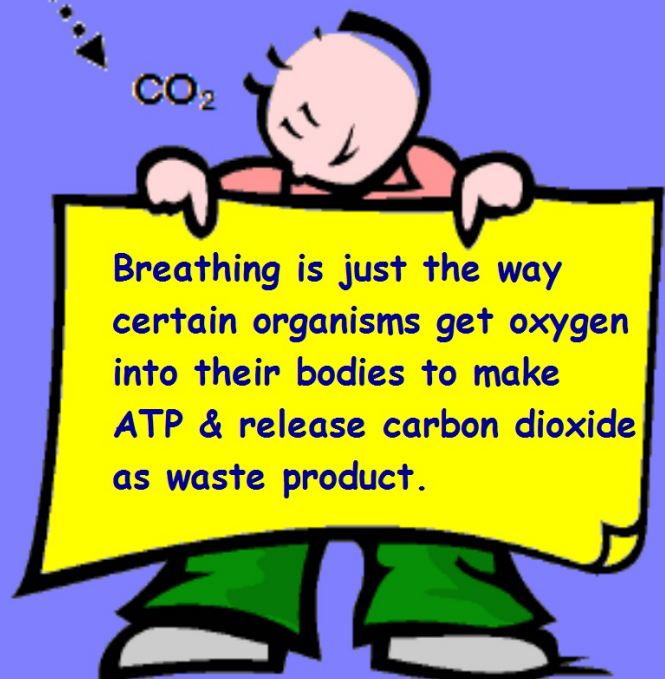
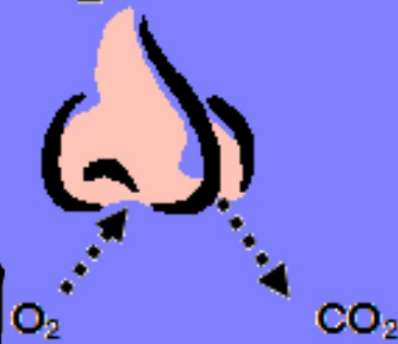
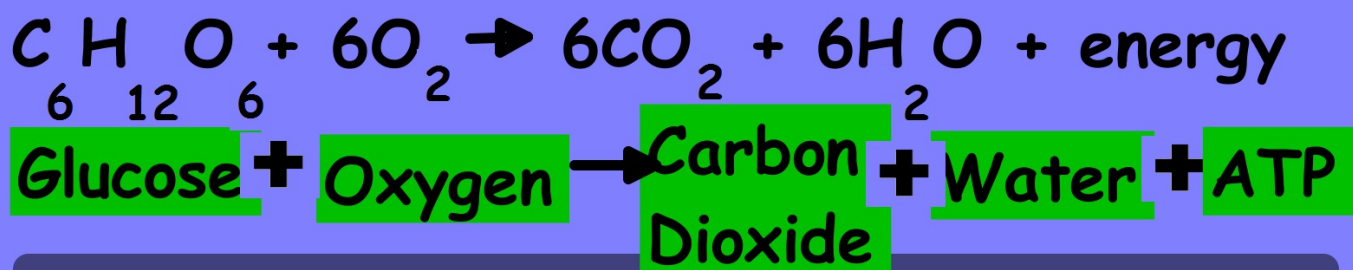


Respiration



What is the chemical equation for cellular respiration?



<http://www.teachersdomain.org/>

the powerhouse of the cell

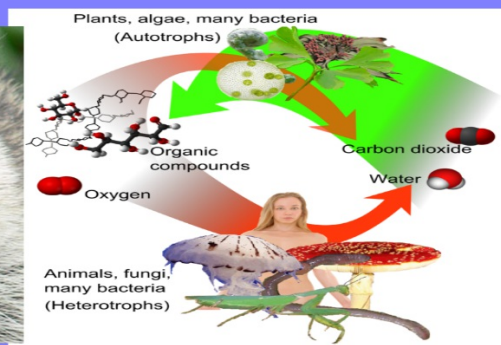
What is Cellular Respiration?

The process in which food molecules (like glucose) are broken down to release the energy in their chemical bonds.

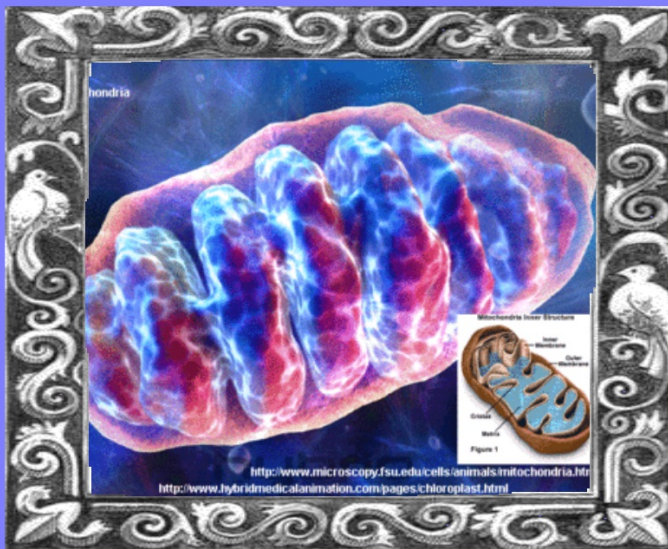


What organisms respire?
ALL
LIVING ORGANISMS!

respiration is a
part of metabolism



Where does respiration occur? mitochondria

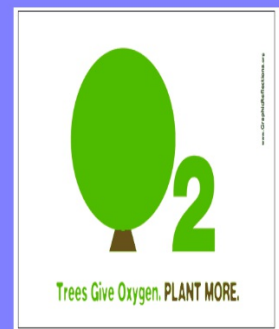
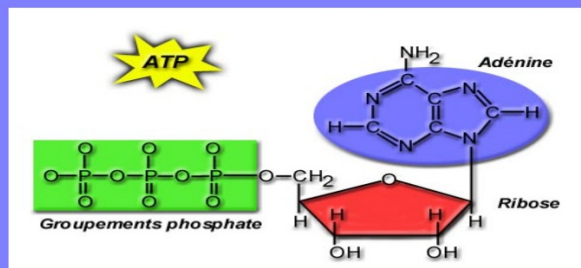
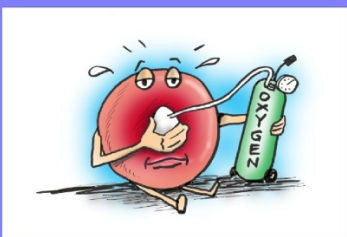


Why is the inside of the mitochondria folded?

-to increase surface area so more chemical reactions can take place

Respiration is dependent on...

- the amount of available oxygen
- the amount of O_2 determines the number of ATPs that are made!





DRAW THIS

AEROBIC RESPIRATION



34 ATPs



ANAEROBIC RESPIRATION



2 ATPs



Aerobic = **WITH** oxygen

36 ATP molecules are produced!

This is the best way to go - you get more bang for your buck!

Anaerobic = **NO** oxygen

Only **2** ATPs are produced! Because it happens in the **cytoplasm**, not the mitochondria!

2 Types:

1. In HUMANS:

Lactic Acid Fermentation

- Produced in your **muscles** when the muscles cannot get enough **oxygen**!
- Build up of lactic acid is responsible for your painful, burning muscles after hard exercise

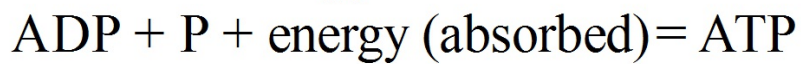
2. In YEAST:

Alcoholic Fermentation: in bacteria and yeast

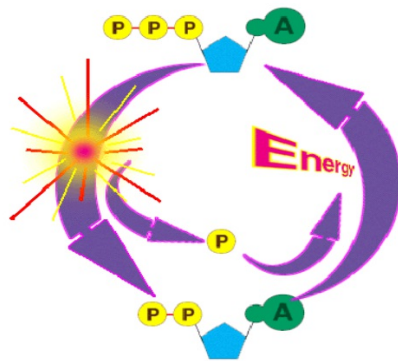
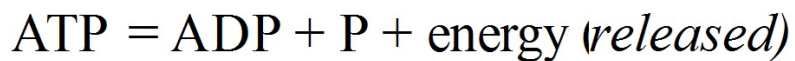
- Produces **CO₂** and **H₂O**
- Responsible for bread rising and making beer



When the bond between the phosphate and the ADP is **FORMED** energy is **ABSORBED**.



When the bond between the phosphate and ATP is **BROKEN** energy is



PHOTOSYNTHESIS AND CELLULAR RESPIRATION: A CYCLE!

