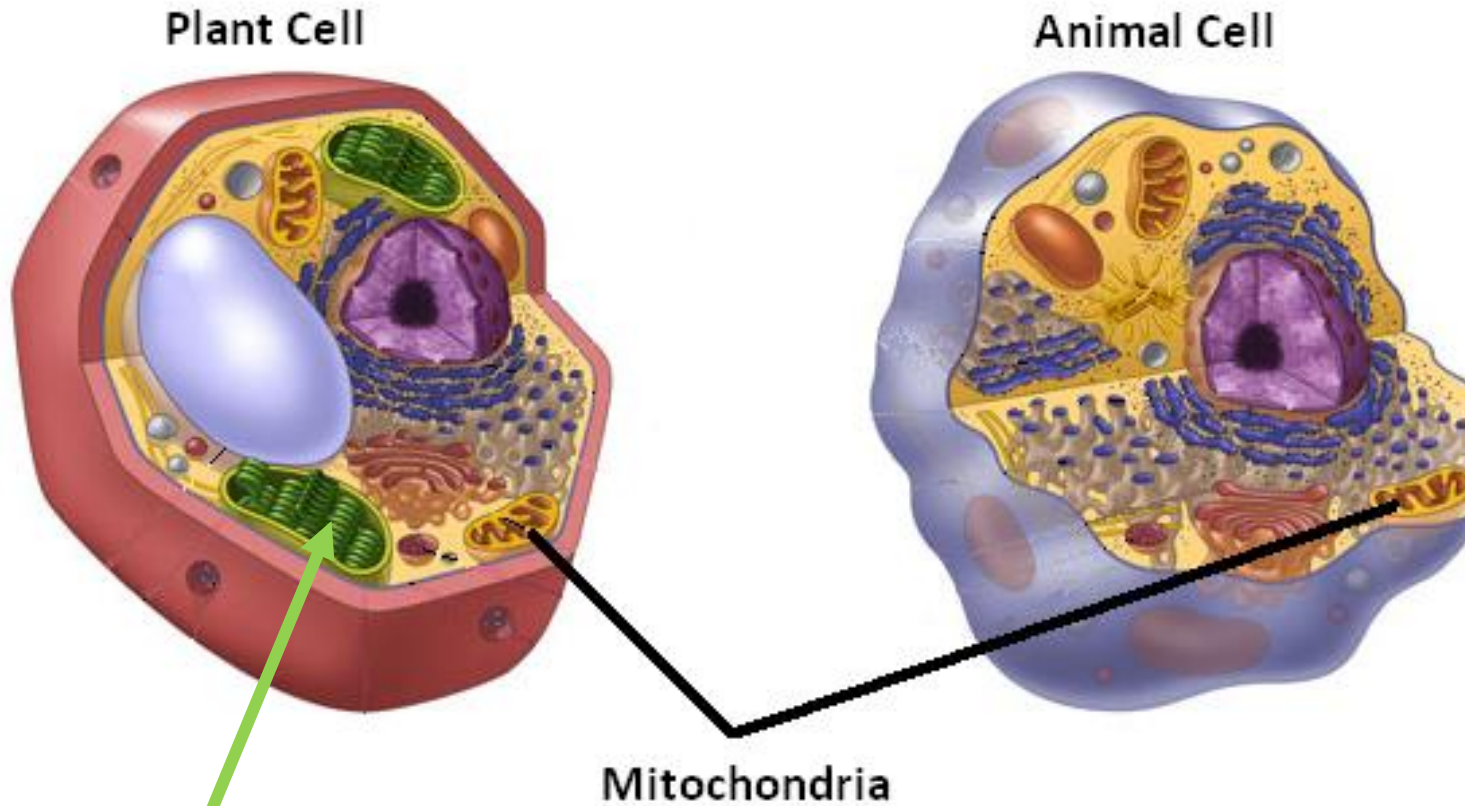


EQ: Describe the process of Cellular Respiration when Oxygen is present.



Only plants have Chloroplast, so only they can do Photosynthesis

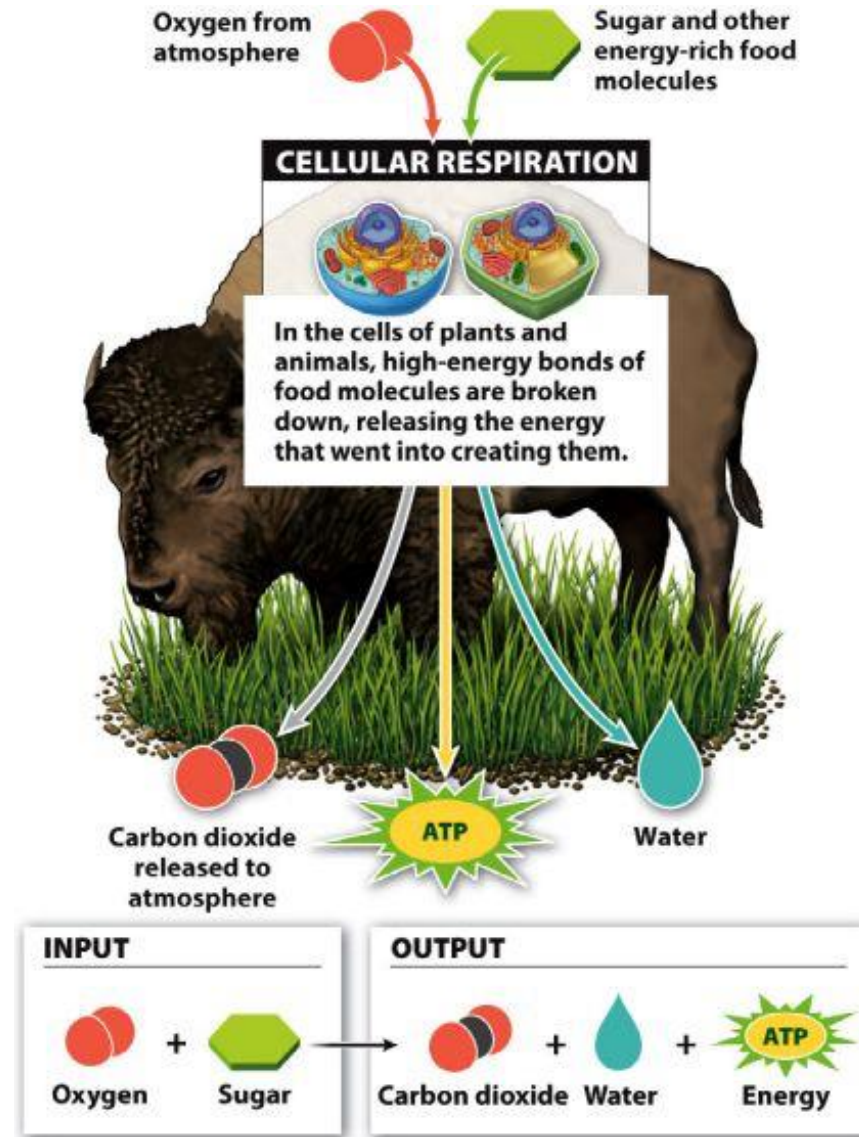
- Both plant and animal cells have the organelle Mitochondria.
- They both can carry out the aerobic stages of cellular respiration in the mitochondria.
- Aerobic = with oxygen present

Cellular Respiration

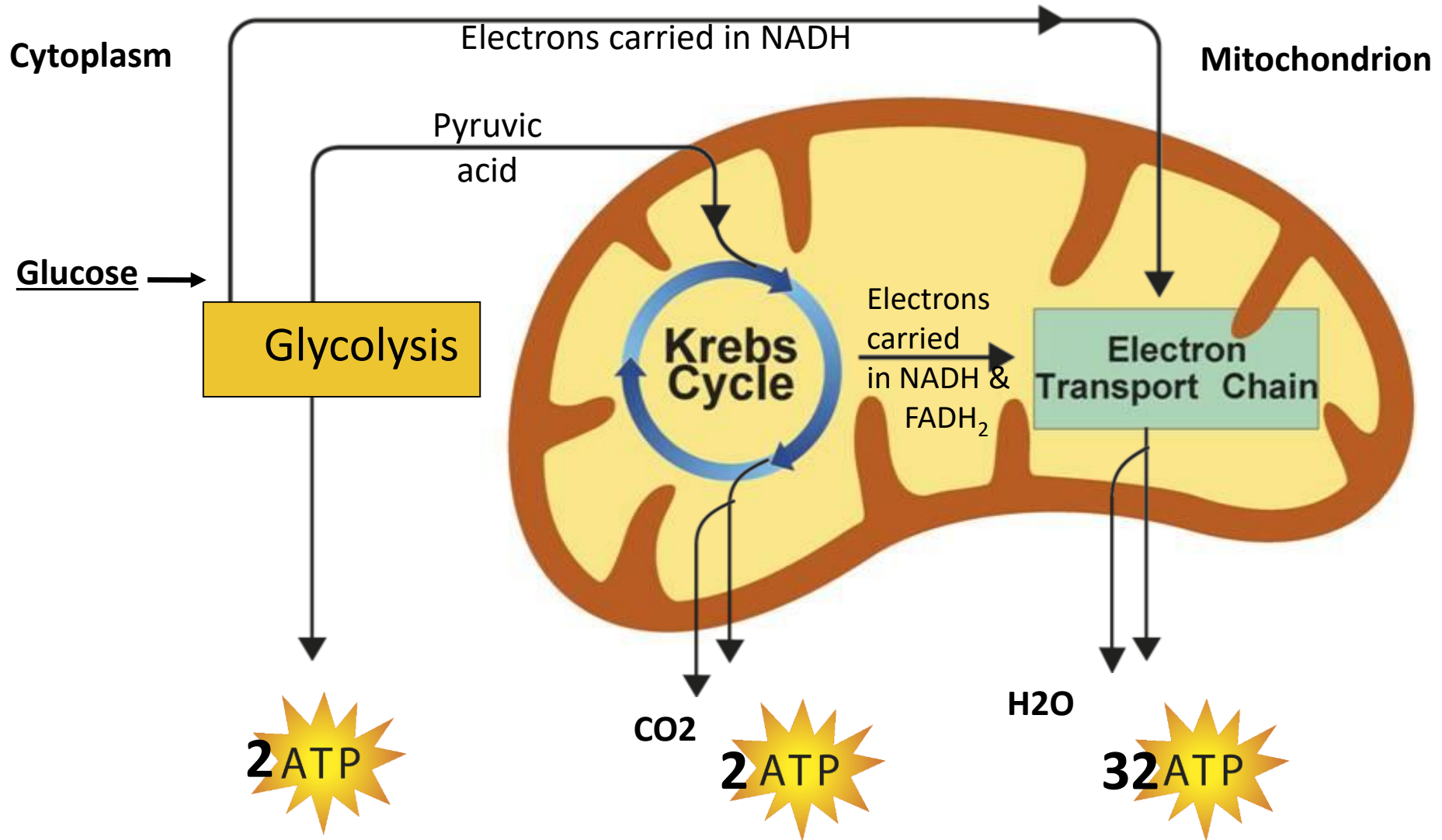
is the process converting sugar into chemical energy (ATP) in the presence of oxygen (aerobic)



- What happens to each molecule:
- The sugar is broken down and carbon dioxide is released.
- The oxygen picks up hydrogens to make water
- This process makes 36 ATP for the body to use!



- Glycolysis takes place in the cytoplasm (outside of the organelle) and breaks the glucose into two pyruvic acids in an anaerobic environment.

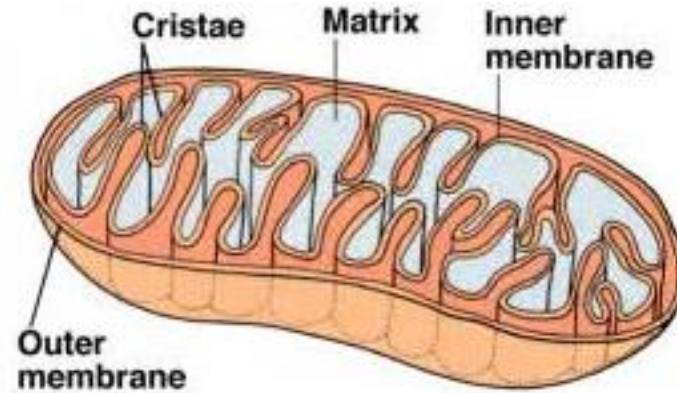


The first set of reactions in Cellular Respiration are known as **Krebs Cycle or Citric Acid Cycle**.

- Takes place in the matrix of the mitochondria
- Input: Pyruvic Acid (1/2 a glucose from glycolysis)
- Outputs: CO_2 and ATP (and NADH and FADH_2)

Summary:

Carbon Dioxide is released, then 1 ATP can be used & NADH and FADH_2 transfer to the ETC



The second set of reactions in Cellular Respiration are known as the **Electron Transport Chain (ETC)**

- Taking place on the cristae (folds) of the mitochondria
- Input: electron carriers (NADH and FADH_2) and O_2
- Outputs: ATP (energy) and H_2O

Summary:

- H_2O is released, then the electron carrier return
- The production of **36 ATP**