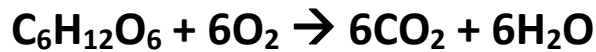
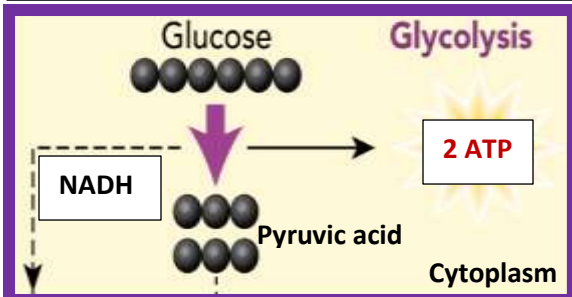


# Cellular Respiration



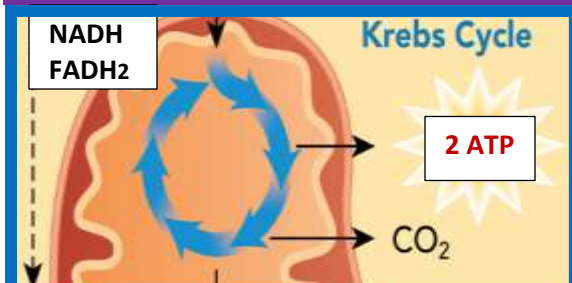
Happens in the **MITOCHONDRION**

## AEROBIC RESPIRATION: with oxygen



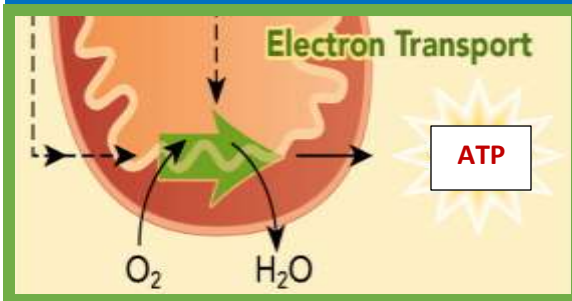
### STEP 1 Glycolysis:

- Happens in the cytoplasm
  - 1. Glucose is broken into 2 pyruvic acid (3-carbon)
  - 2. NADH captures electrons
- 2 ATP** are made



### STEP 2 Krebs Cycle:

- Happens in the **mitochondrial matrix**
  - 1. Pyruvic acid is broken into CO<sub>2</sub>
  - 2. NADH and FADH<sub>2</sub> captures electrons
- 2 ATP** are made



### STEP 3 Electron Transport Chain:

- Happens in the **inner membrane**
  - 1. NADH and FADH<sub>2</sub> release electrons
  - 2. Electrons release energy
  - 3. Oxygen is the final electron acceptor; it picks up used electrons and becomes water
- Up to **28 ATP** are made

**Total ATP: up to 32**

## ANAEROBIC RESPIRATION: without oxygen

Fermentation starts with...

