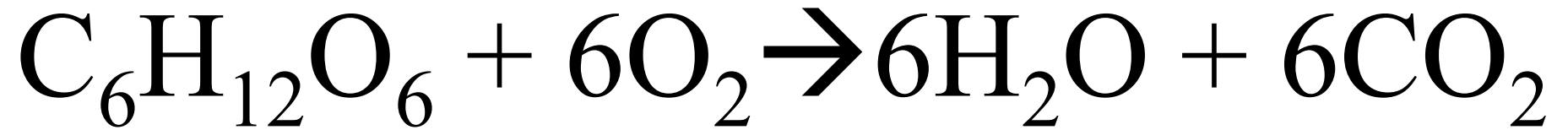


# Cellular Respiration

Ch. 8.3

Equation:



Aerobic vs Anaerobic

# A. Glycolysis

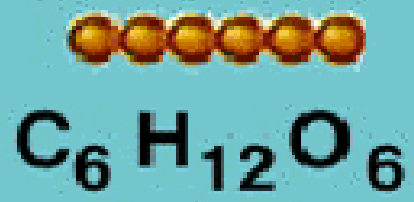
1. Latin

2.  $6 \text{ C} \rightarrow 2 \times 3\text{-C}$

3. Oldest process

4.  $+2 \text{ ATP } (-2 + 4) \& 2 \text{ NADH}$

# Glycolysis



2 

energy input

2 ADP

2  $NAD^+$

2 

energy output

2 

2 pyruvate



  
2 ATP net



5.  $H^+$  and  $e^-$  produced

6. NADH carries

7. Cytosol

8. No  $O_2$  needed

**Glycolysis**

**Glucose**

**CYTOSOL**

**Pyruvic acid**

**Lactic acid  
(Muscles)**

**Ethanol and CO<sub>2</sub>  
(Yeast)**

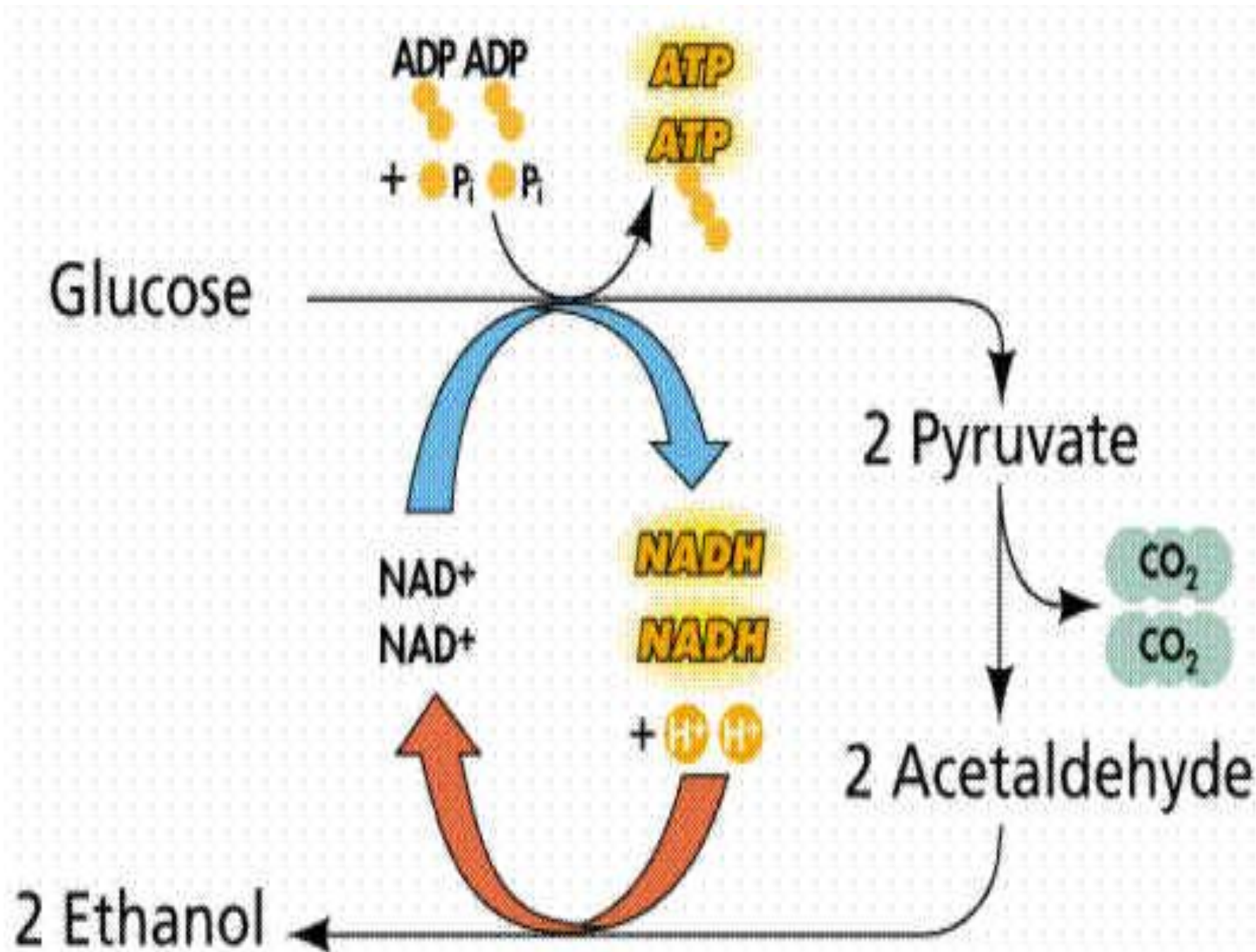
**Citric acid cycle**

**CO<sub>2</sub> and H<sub>2</sub>O**

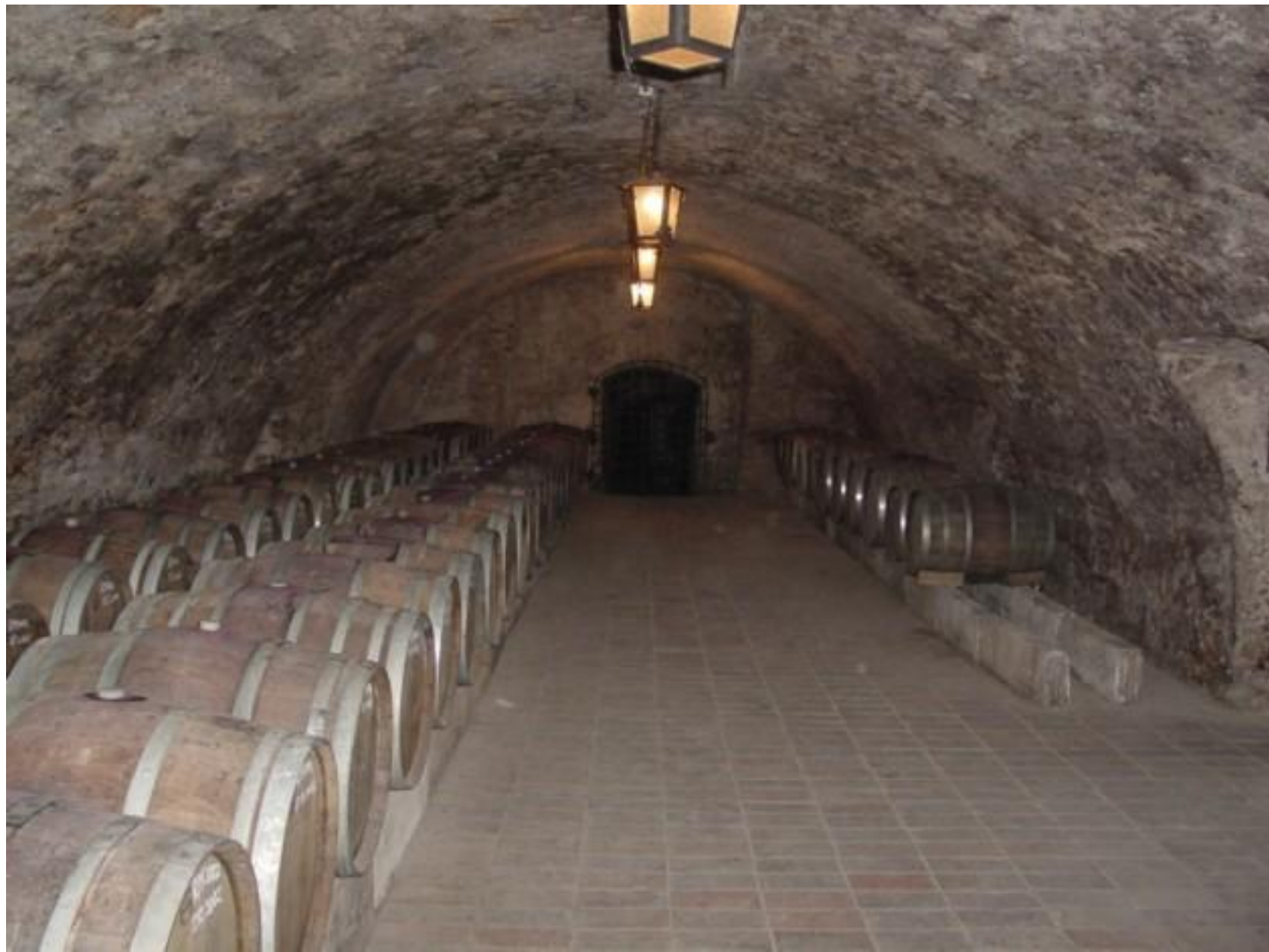
**MITOCHONDRIA**

## B. Fermentation (still cytosol)

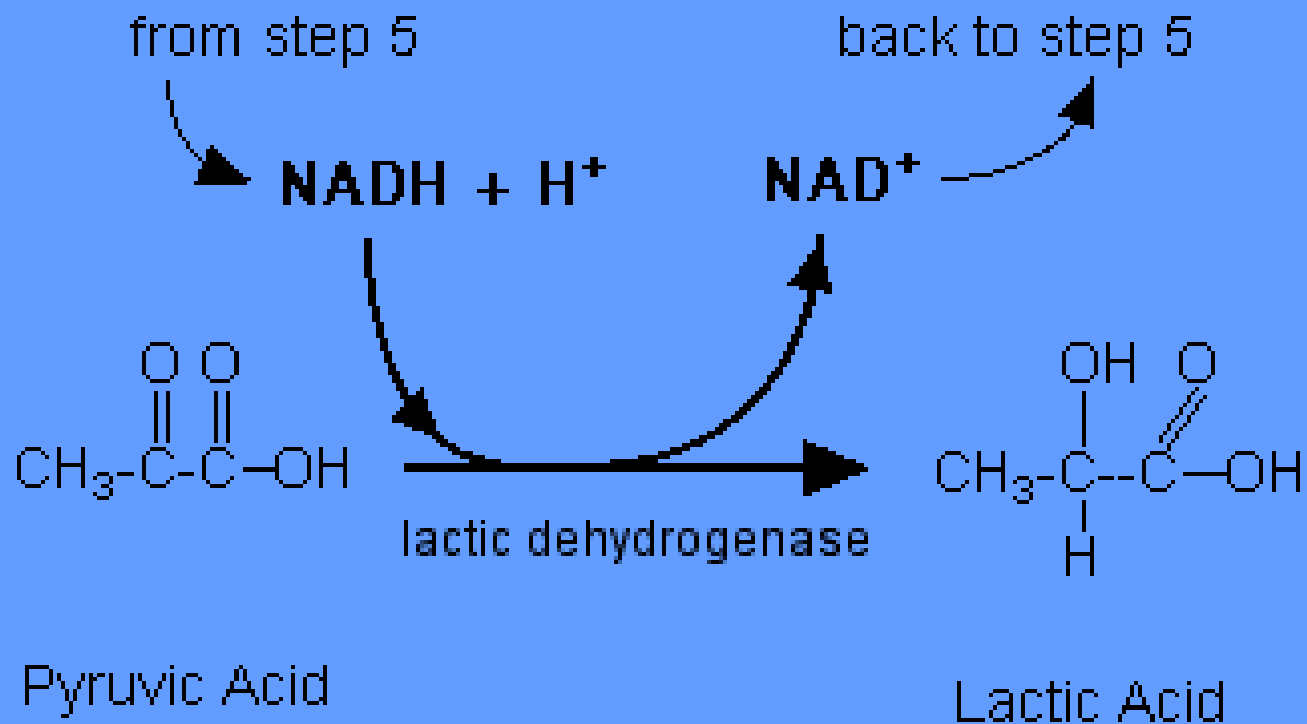
1. If no  $O_2$
2. Beer and wine
3. Muscles
4. NO EXTRA ATP





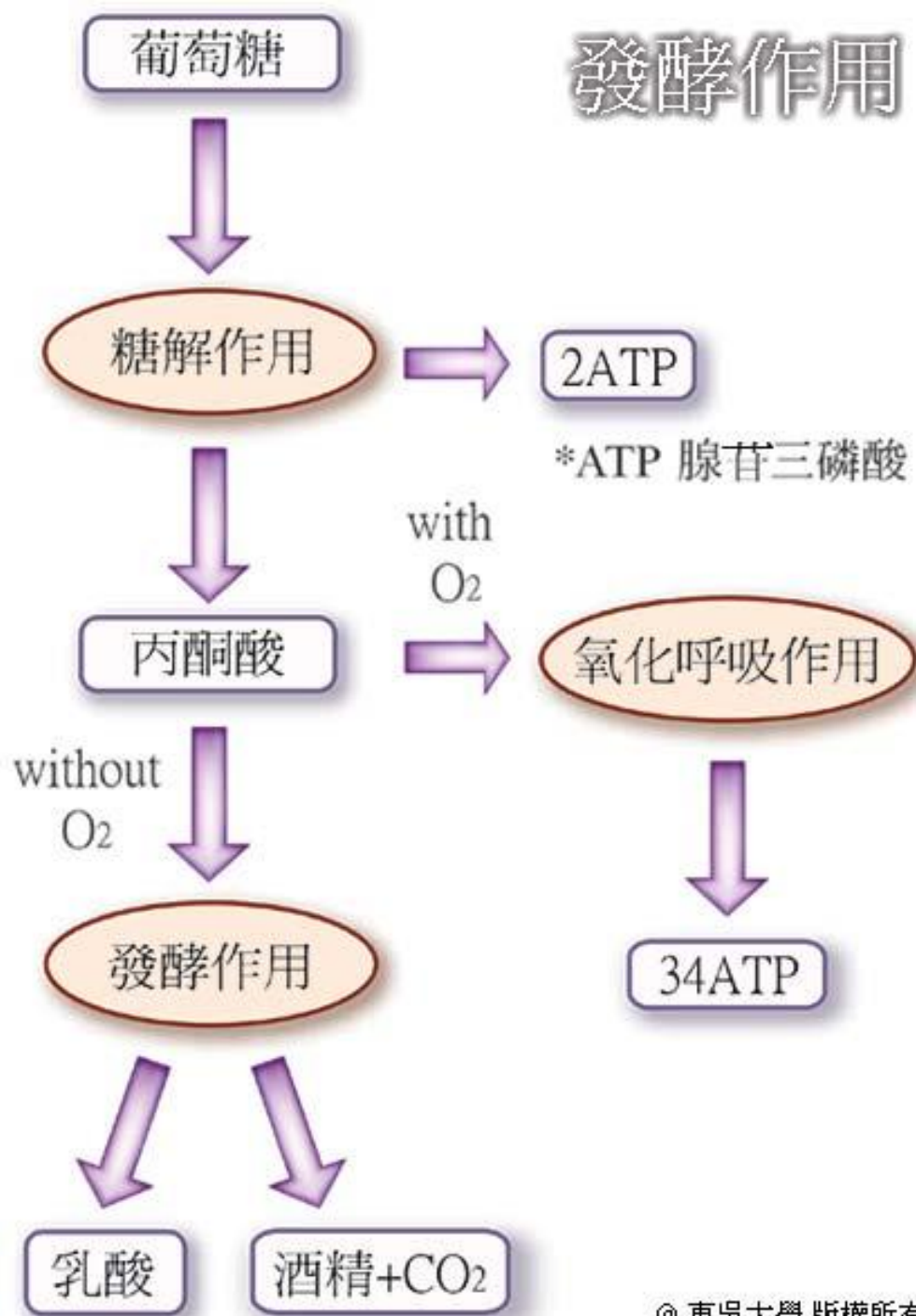


# Anaerobic - Lactic Acid





# 發酵作用



## C. Oxidative respiration

1. YES O<sub>2</sub> required

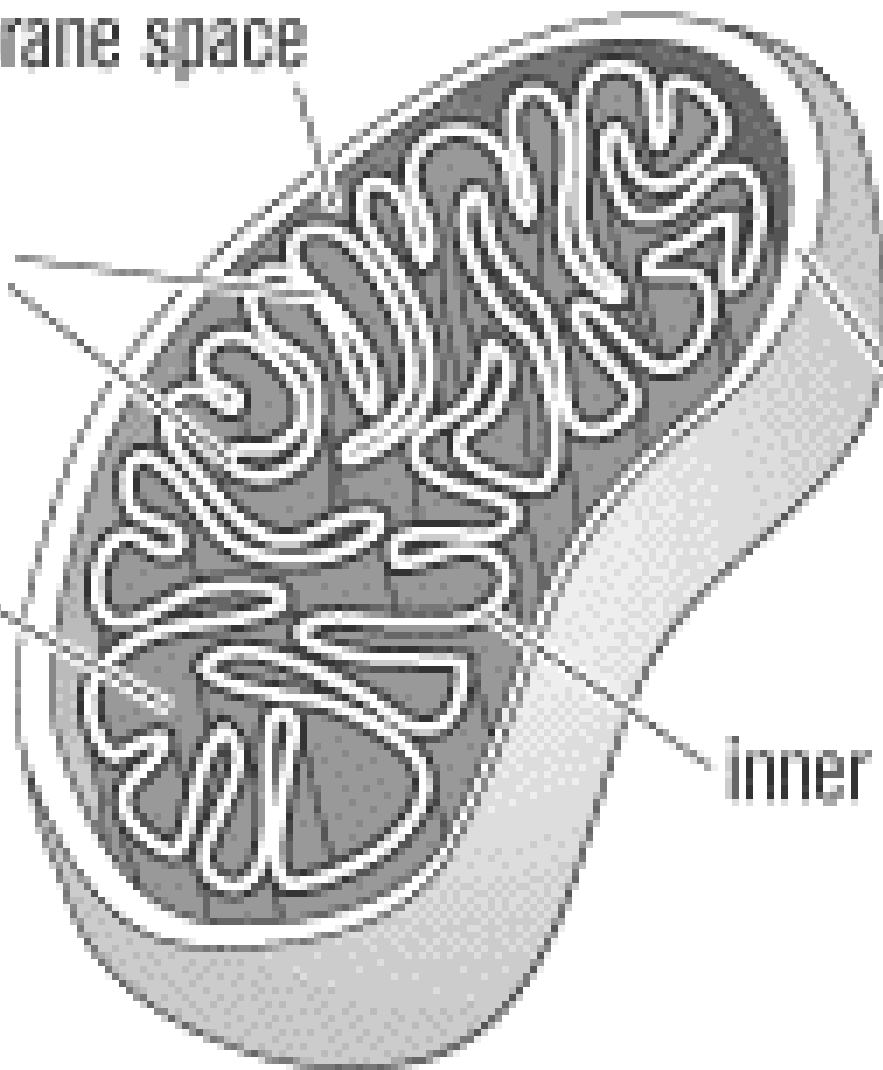
2. Most efficient

3. Mitochondria

intermembrane space

cristae

matrix



outer membrane

inner membrane

4.  $O_2$  picks up

5. total +34  $ATP'$  s

D. 2 stages:

1. Kreb's cycle (matrix)

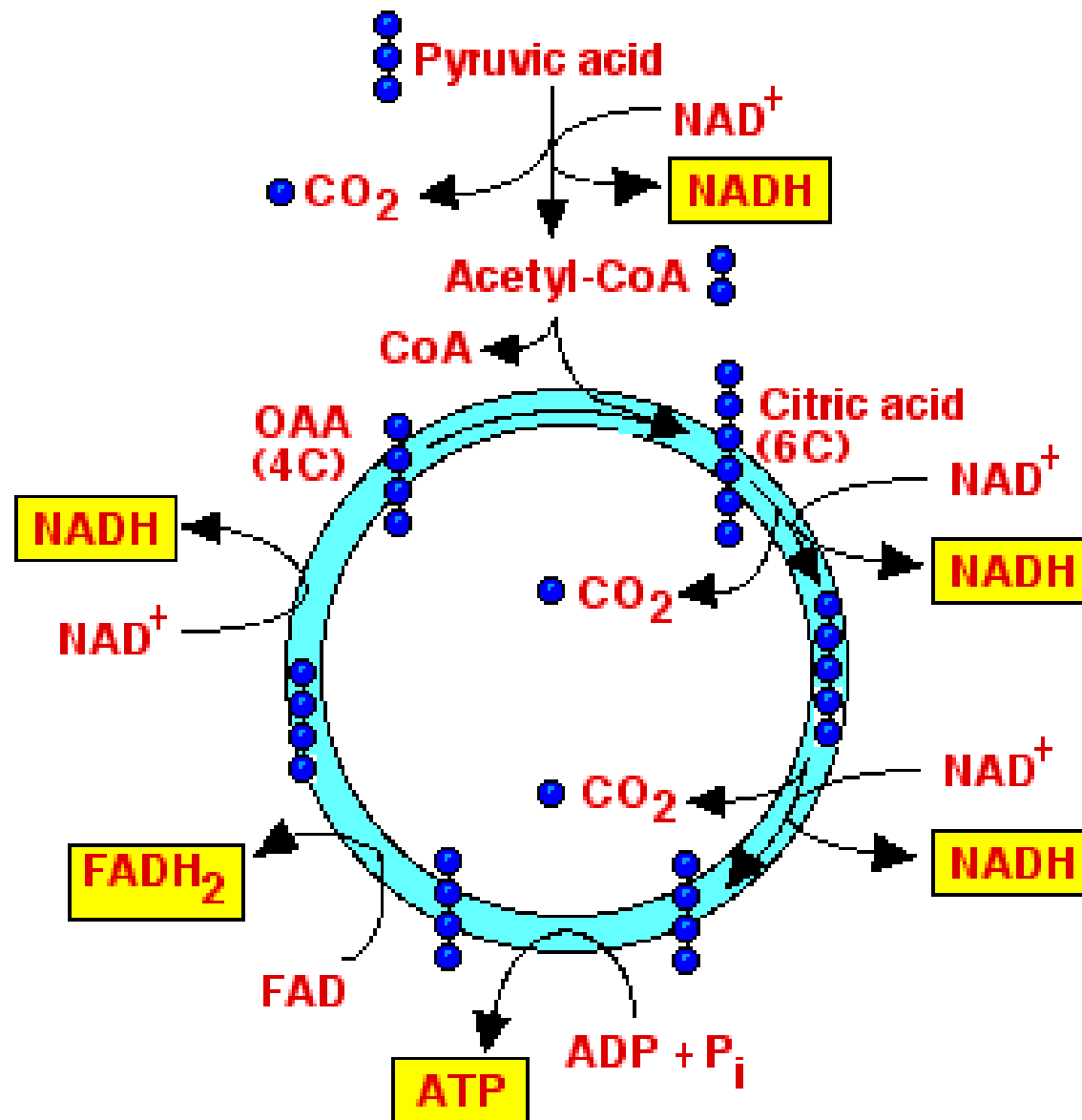
a. Pyruvate  $\rightarrow$  acetyl

CoA

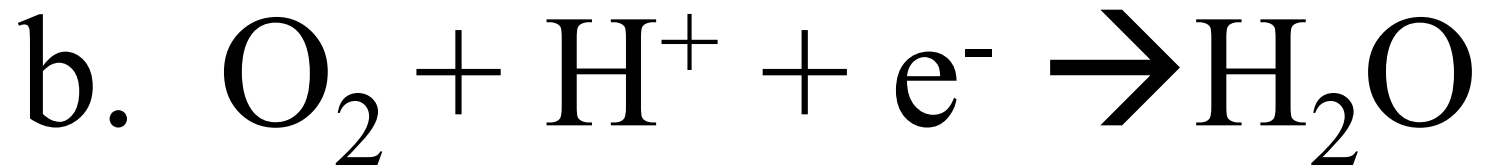
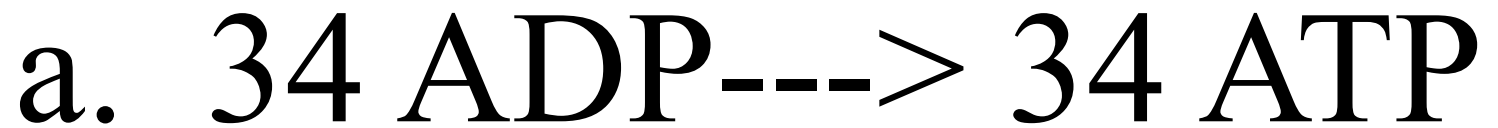
b.  $\text{CO}_2$  made (waste)



# Krebs Cycle (Citric Acid Cycle)

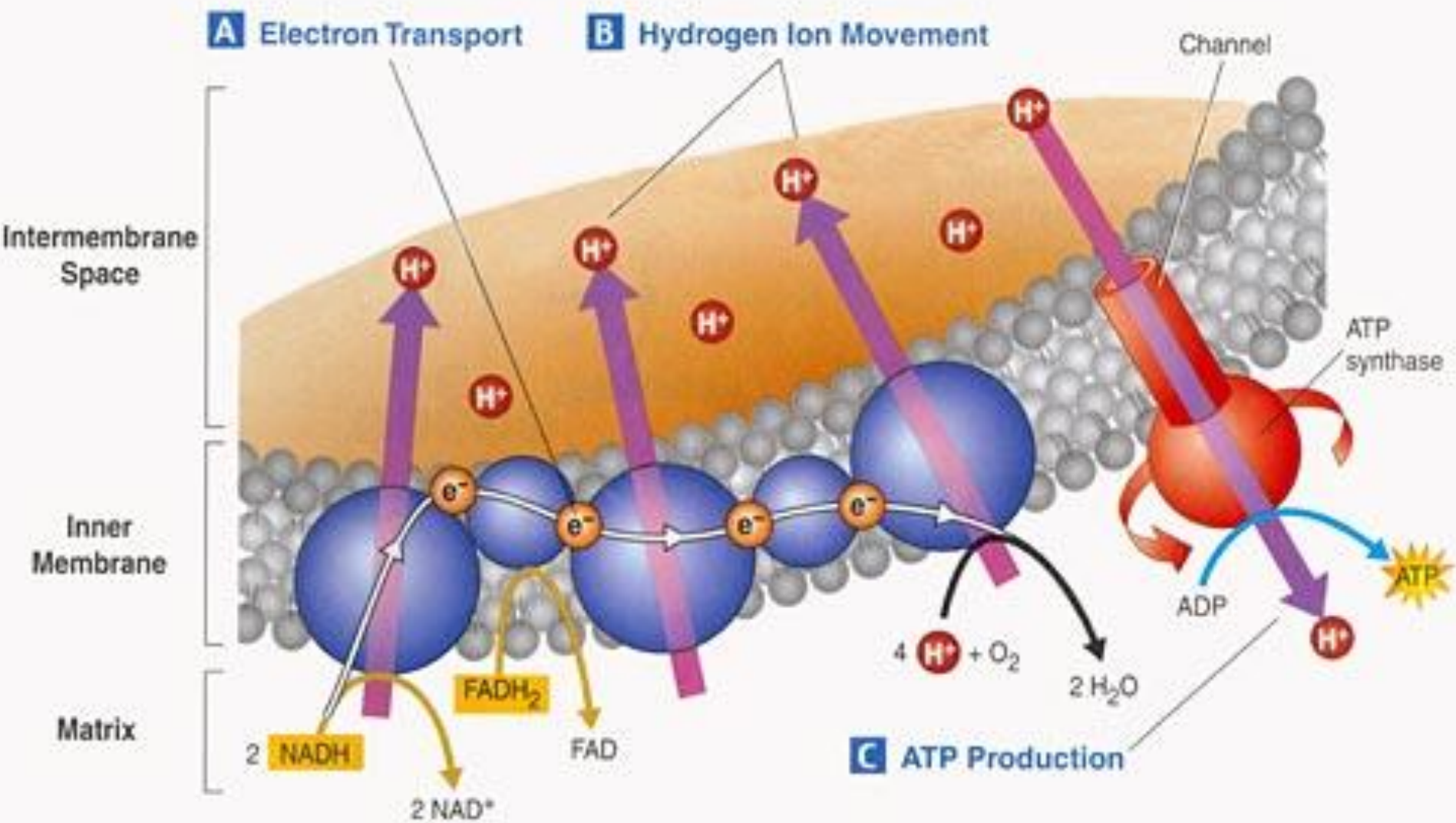


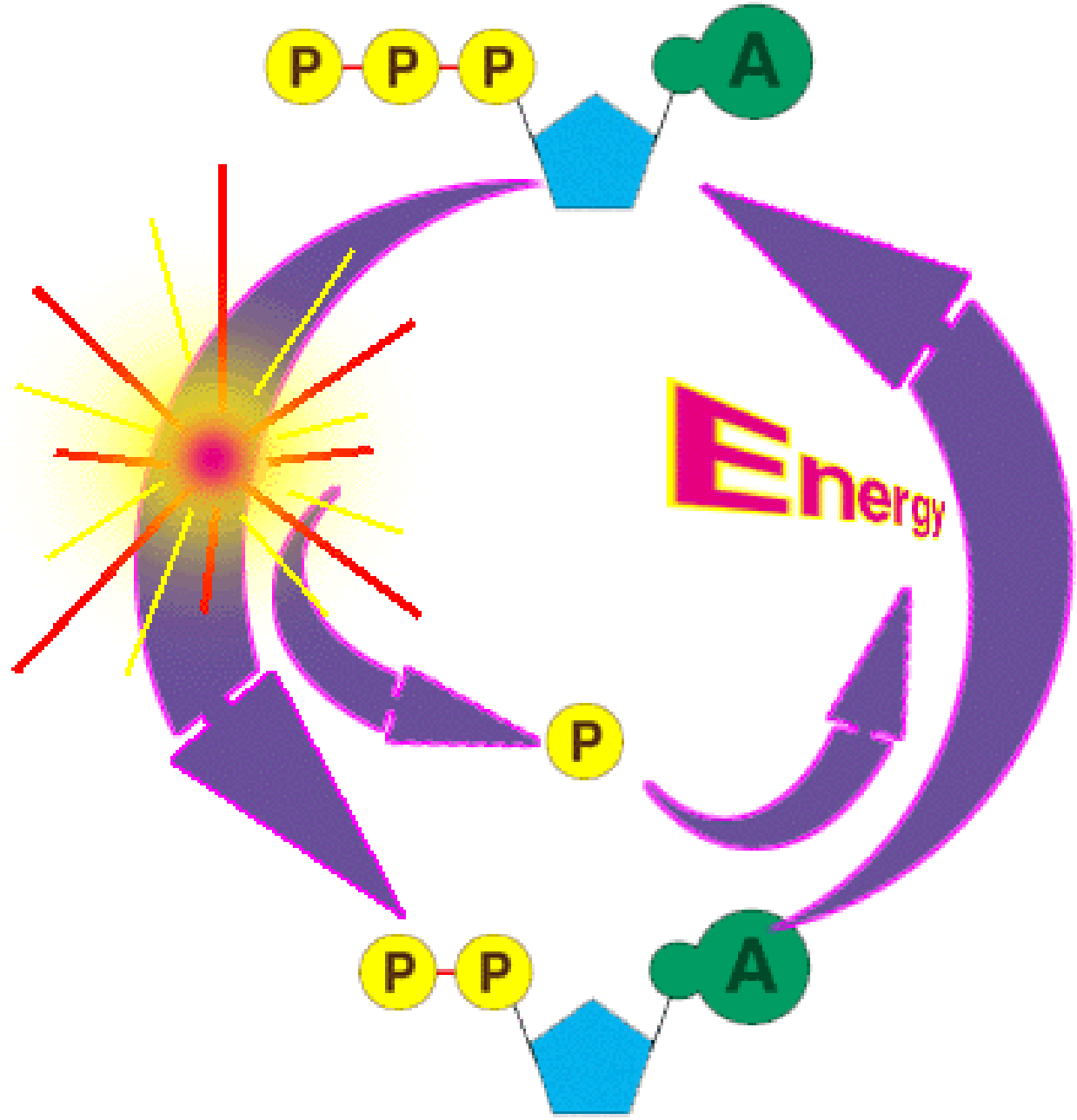
## 2. e- transport chain (in cristae)





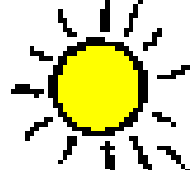
Electron  
transport chain



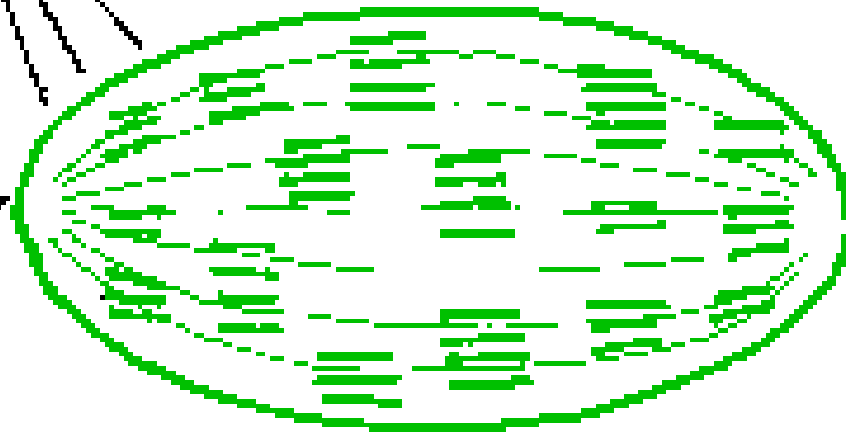


# E. Connect photosynthesis and cellular respiration

1. reactants of one...
2. products of one...



Photosynthesis:



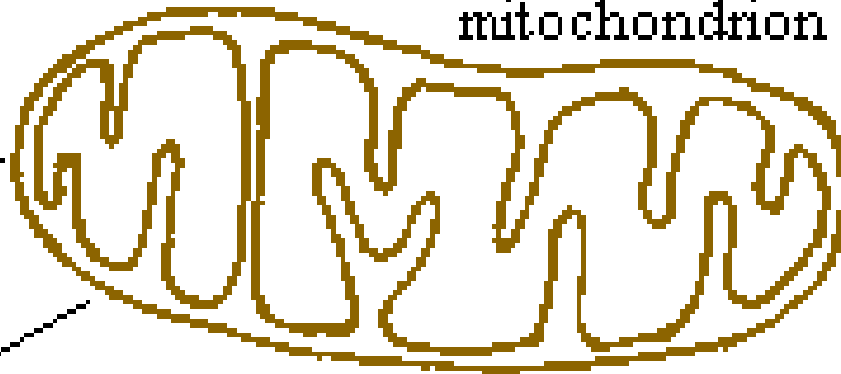
chloroplast

$\text{O}_2$

sugars

$\text{CO}_2 + \text{H}_2\text{O}$

mitochondrion



$\text{O}_2$

energy

Respiration:



## Review stuff for Ch 8 Test:

1. notes
2. 2 quizzes
3. Study Guide
4. POGILs
5. colorsheet for ETC
6. leaf cross section lab
7. phenol red/Elodea lab
8. absorption spectrum handout
9. extra study guide sheet (chapter 6)
10. review handouts (that go along with diagrams)
11. review Q's at end of chapter