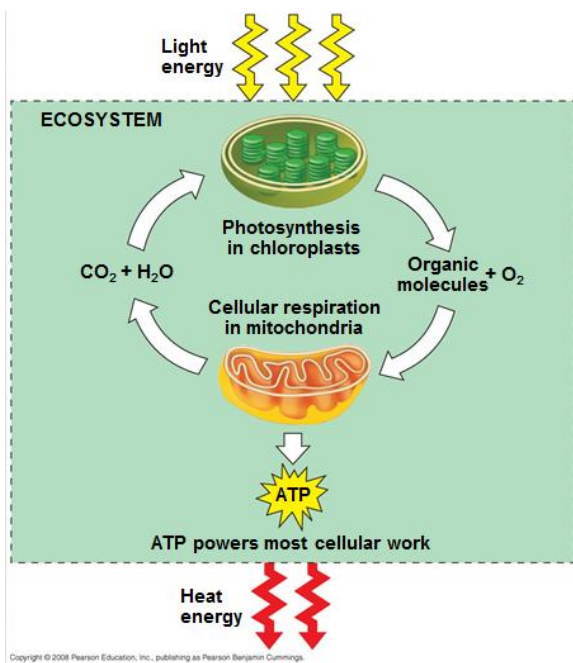


1. It is important to **know and understand**:
 - ⇒ The structure and function of ATP.
 - ⇒ The summary equation for cellular respiration.
 - ⇒ The structure and function of the mitochondria.
 - ⇒ An overview of the stages of cellular respiration.
 - ⇒ The difference between fermentation and cellular respiration.
 - ⇒ The summary equation for photosynthesis.
 - ⇒ The structure and function of the chloroplast.
 - ⇒ An overview of the stages of photosynthesis.
 - ⇒ The theory of endosymbiosis.
2. **Discuss** how the processes of photosynthesis and cellular respiration depend on each other.

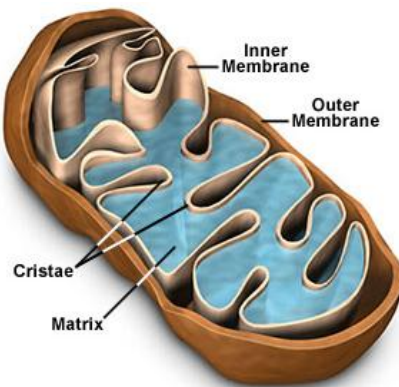


3. **Sketch and label** a molecule of ATP. Where is the energy stored in this molecule?

4. What does “aerobic” respiration mean? What types of organisms perform cellular respiration?

5. **Write** the chemical formula for cellular respiration. **Label** the reactants and products.

6. **Describe** the structure of a mitochondrion.



7. What are the three stages of cellular respiration?

⇒ Where does stage each occur in the mitochondrion?

⇒ What occurs during glycolysis? How many ATP are produced?

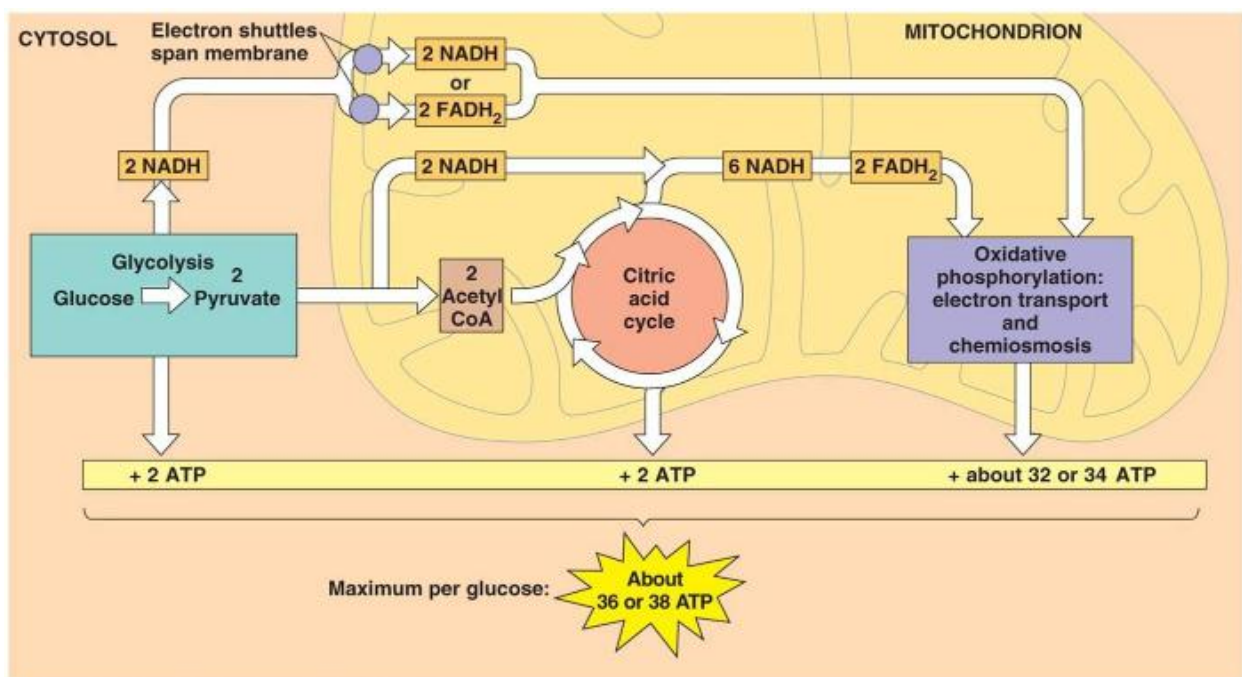
⇒ What occurs during the Krebs cycle? How many ATP are produced? What is the role of NADH and FADH₂ molecules?

⇒ Why is the Krebs cycle also known as the Citric Acid cycle?

⇒ What occurs during electron transport? How many ATP are produced?

⇒ What is ATP synthase?

⇒ What is the overall net yield of ATP produced during aerobic cellular respiration?

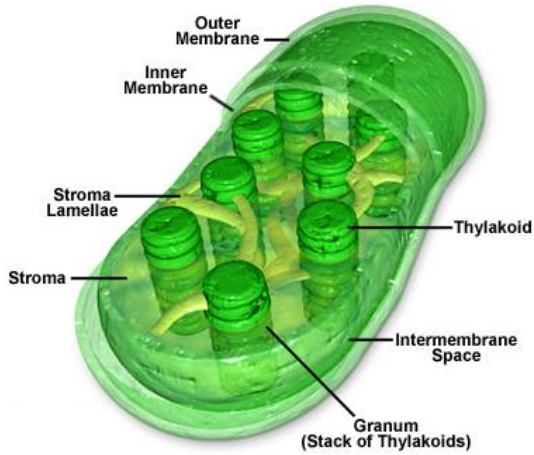


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8. **Discuss** the role of fermentation in allowing cells to continue to produce ATP when oxygen is scarce. What type of fermentation is performed by mammals?

9. Write the chemical formula for photosynthesis. Label the reactants and products.

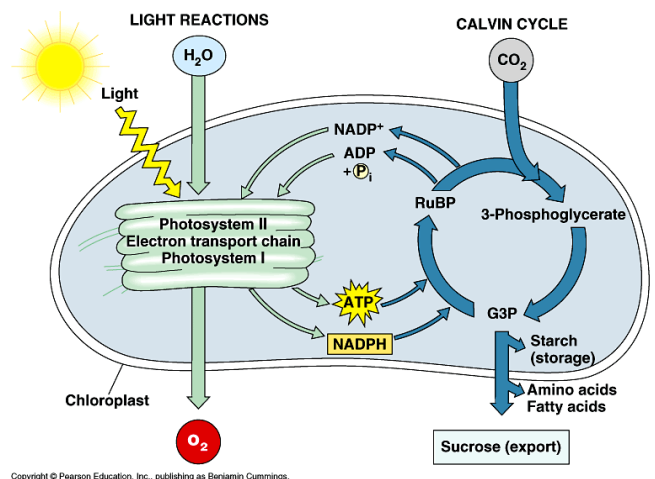
10. Describe the structure of a chloroplast.



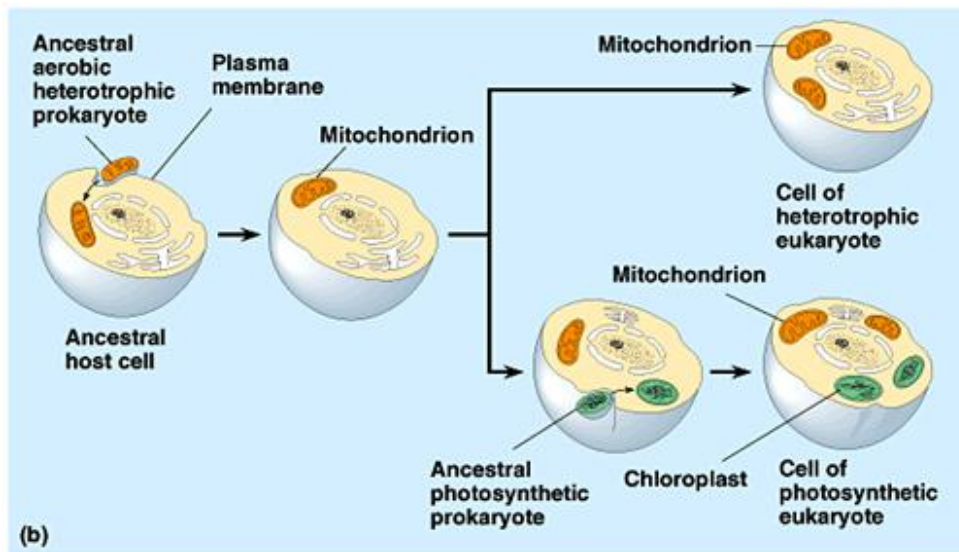
11. What are the two stages of photosynthesis?

⇒ Where do the light reactions occur? What is produced?

⇒ Where does the Calvin cycle occur? What is produced?



12. **Describe** the theory of endosymbiosis. What evidence provides support for this idea?



(b)
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