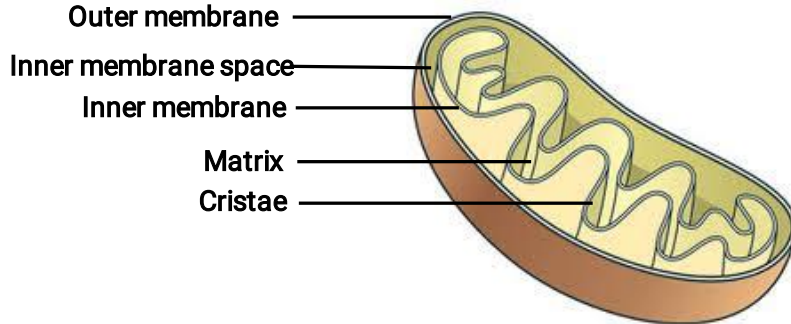


2 Minute Classroom

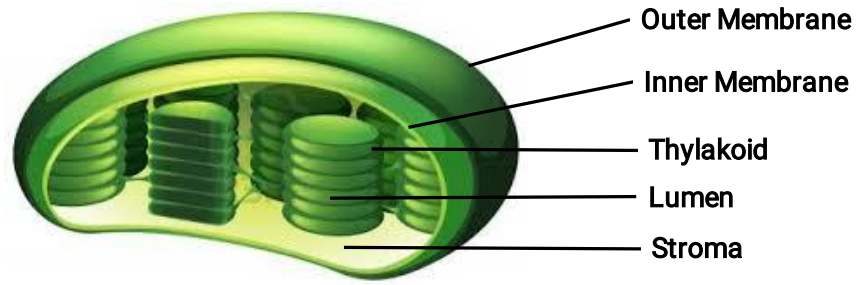
- (p.124)27. Mitochondria and chloroplasts are not considered part of the endomembrane system, although they are enclosed by membranes. Label the diagram of the mitochondria below being sure to include the *outer membrane*, *inner membrane*, *inner membrane space*, *cristae*, and *matrix*. (Figure 7.17)



- (p.124)28. What is the function of the mitochondria?

The function of the mitochondria is to carry out aerobic cellular respiration, a catabolic process that generates ATP by extracting energy from sugars.

- (p.125)29. Now label the diagram of the chloroplast below being to include the *outer membrane*, *inner membrane*, *inner membrane space*, *thylakoids*, *granum*, and *stroma*. Notice that the mitochondrion had two membrane compartments, while the chloroplast has three compartments. (Figure 7.18)



- (p.125)30. What is the function of the chloroplasts?

The function of the chloroplast is to carry out photosynthesis which converts the solar energy of the sun to chemical energy by absorbing sunlight and using it to make sugar.

31. Recall the relationship of structure to function. Why is the inner membrane of the mitochondria highly folded? What role do all the individual thylakoid membranes serve? (*Same answer for both questions.*)

The folds of the inner membrane of the mitochondria along with the many individual thylakoid membranes serve to INCREASE the SURFACE AREA to increase the efficiency of both biological processes crucial for LIFE.

*Chloroplasts and mitochondria both have ribosomes and their own DNA. You will learn later about their evolution, but for now hold onto these facts. They are semiautonomous organelles that grow and reproduce within the cell. **DUCK IT!***