

Importance of Photosynthesis and Cellular Respiration

The importance of photosynthesis and cellular respiration is simply that we need them to live. First off, without plants performing photosynthesis there would be no way for nature to replace all the oxygen being consumed in processes such as respiration and combustion. Therefore we would have nothing to breathe and we could never start fires or use explosives. Also without replacing the oxygen the levels of carbon dioxide in the atmosphere would increase making the balance of atmospheric gases unbalanced and unusable for many day to day things. The gases in the atmosphere is kept stable by photosynthesis.

Whilst cellular respiration is “a set of metabolic reactions and processes that take place in the cells of organisms to convert biochemical energy from nutrients into adenosine triphosphate (ATP), and then release waste products.” Explained by Wiki. In simpler terms, that means cellular respiration is the process of breaking sugar into a form that the cell can use as energy. The process is taking in food and using it to create ATP. This is a chemical that the cell uses for energy.

Usually, this process uses oxygen, and is called aerobic respiration. It has four stages known as glycolysis, Link reaction, the Krebs cycle, and the electron transport chain. So, cellular respiration is important because it provides energy for living organisms to perform necessary functions to survive. Most single celled organisms, such as bacteria, do not require much energy and are able to survive on glycolysis and fermentation. But unlike them, us humans require the process of cellular respiration. The purpose of photosynthesis is to convert water and carbon dioxide to glucose. The purpose of cellular respiration is to convert the energy stored in glucose to ATP. ATP is necessary because it transports the energy needed for all cellular metabolic activities organisms must perform. It is very interesting how photosynthesis and cellular respiration help each other. During photosynthesis, the plant needs carbon dioxide and water. Both of which are released into the air during respiration. And during respiration, the plant needs oxygen and glucose, which are both produced through photosynthesis. Therefore these two go hand in hand.

The rate that affects cellular respiration are sufficient oxygen to the body because without oxygen you can not create ATP. Also people who do less exercise need less oxygen in their bodies meaning they have less ATP. We effect the balance between photosynthesis and cellular respiration with global warming. When we litter that affects the earth. Which then affects their balance. Also the cars we drive, and a few other things affect the air and other things on earth. Also, we cut down multiple trees all the time.