

# Essay on why there would be no people without plants

[Business](#), [Marketing](#)



\n[[Table of Contents](#)]\n

\n \t

1. [Introduction](#) \n \t
2. [Discussion](#) \n \t
3. [Conclusion](#) \n \t
4. [References](#) \n

\n[/toc]\n \n

## **Introduction**

Eukaryotes especially multi-cellular organisms, plants and animals, actually have a mutual relationship that entails interdependence between them. This relationship is based on several factors but the most significant and fundamental one is the exchange of oxygen and carbon dioxide. As a matter of fact, plants are the chief sources of organic material in all living things through the process of photosynthesis (Hopkins, 2006). This paper basically tries to demonstrate and illustrate the mutual benefits that exist between plants and animals for survival.

## **Discussion**

According to Hopkins (2006), plants are the chief source of organic matter in nature especially carbohydrates, proteins, vitamins, fats and acids. He argues that plants unlike animals which only respire perform both respiration and photosynthesis. Respiration is a chemical process that utilizes oxygen to metabolize food materials especially glucose to release carbon dioxide and ATP energy used for various purposes like growth. On the other hand,

photosynthesis utilizes carbon dioxide in the presence of sunlight to yield organic matter, food, and oxygen as a by-product. Plants can either acquire the carbon dioxide from the atmosphere via the stomata or just utilize the carbon dioxide produced as a by-product of respiration. As a matter of fact, both the two processes take place during the day due to the presence of sunlight. The carbon dioxide produced by respiration is utilized by photosynthesis. Therefore, the oxygen produced by photosynthesis usually exceeds the carbon dioxide produced by respiration hence plants release oxygen during the day. On the contrary, during the night, plants do not photosynthesize hence oxygen is taken in for respiration and carbon dioxide is released as a by-product. On the other hand, animals only respire which basically signifies that the only gas they utilize is oxygen and release carbon dioxide as a by-product.

According to Walker (2002), plants actually acquire oxygen for the purpose of photosynthesis. He argues that plants utilize carbon dioxide, sunlight energy and other inorganic materials like water and mineral salts to synthesize organic food materials like proteins, carbohydrates, vitamins and fats and lipids. This process actually takes place in the chloroplasts where both the light and the dark stages of photosynthesis are involved.

Plants cannot survive in an airtight box containing all other materials but lacking oxygen because they actually require the oxygen for respiration. During the night plants do not photosynthesize but perform respiration which actually signifies that oxygen must be present and as a result; carbon dioxide is released as an end-product. This can actually be illustrated in the

Biosphere experiment whereby the depletion of oxygen in the structure actually made survival difficult. Plants began to wither due to lack of oxygen which actually prompted oxygen to be pumped from the atmosphere (Stover, 1997).

## Conclusion

Plants and animals actually require each other for survival. Plants take in carbon dioxide released by animals and use it to photosynthesize glucose and other organic materials while they release oxygen as a by-product. On the hand, animals actually utilize the oxygen released by the plants to the atmosphere for respiration and other metabolic reactions while at the same time releasing carbon dioxide to the atmosphere. In fact, the presence of plants helps so much in the cleaning of air since they will take the carbon dioxide animals do not require and release oxygen which animals need. Additionally, this reduces the chances of global warming.

## References

- Hopkins, G. W. (2006). Photosynthesis and Respiration. New York, NY: InfoBase Publishing. Retrieved from [http://books.google.co.ke/books?id=pmLONFfMUBgC&printsec=frontcover&dq=respiration+and+photosynthesis&hl=en&ei=TCQGTeyMDcKEOpHusaYB&sa=X&oi=book\\_result&ct=result&resnum=2&ved=0CCkQ6AEwAQ#v=onepage&q&f=false](http://books.google.co.ke/books?id=pmLONFfMUBgC&printsec=frontcover&dq=respiration+and+photosynthesis&hl=en&ei=TCQGTeyMDcKEOpHusaYB&sa=X&oi=book_result&ct=result&resnum=2&ved=0CCkQ6AEwAQ#v=onepage&q&f=false)
- Stover, D. (1997, April). Second Chance for Biosphere. Popular Science, 250 (4), 55-59. Retrieved from [http://books.google.co.ke/books?id=g6\\_P0yEBH4C&pg=PA56&dq=Biosphere+experiment&hl=en&ei=https://assignbuster.com/essay-on-why-there-would-be-no-people-without-plants/](http://books.google.co.ke/books?id=g6_P0yEBH4C&pg=PA56&dq=Biosphere+experiment&hl=en&ei=https://assignbuster.com/essay-on-why-there-would-be-no-people-without-plants/)

2SEGTbS4BsTrOcL2iKcB&sa=X&oi=book\_result&ct=result&resnum=4&ved=0CDMQ6AEwAw#v=onepage&q=Biosphere%20experiment&f=false

Walker, D. (2002). Energy, Plants and Man. Chichester, West Sussex: Oxygraphics. Retrieved from [http://books.google.co.uk/books?id=y1Nb7EvZ7iAC&pg=PA16&dq=respiration+and+photosynthesis&hl=en&ei=TCQGTeyMDcKEOpHusaYB&sa=X&oi=book\\_result&ct=result&resnum=7&ved=0CEcQ6AEwBg#v=onepage&q=respiration%20and%20photosynthesis&f=false](http://books.google.co.uk/books?id=y1Nb7EvZ7iAC&pg=PA16&dq=respiration+and+photosynthesis&hl=en&ei=TCQGTeyMDcKEOpHusaYB&sa=X&oi=book_result&ct=result&resnum=7&ved=0CEcQ6AEwBg#v=onepage&q=respiration%20and%20photosynthesis&f=false)