

How Does Radiation Affect the Environment?



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INTRODUCTION

Many forms of "radiation" are encountered in the natural environment and are produced by modern technology. Most of them have the potential for both beneficial and harmful effects. Even sunlight, the most essential radiation of all, can be harmful in excessive amounts. I would like to explore how radiation exposure causes birth defects and health issues.

OBJECTIVES

The objectives of this research is to inform myself on the dangers of radiation and to explore the various ways radiation damages human health as well as the environment as a whole. While many may understand the negative effects of radiation, most do not take into consideration that they are constantly being exposed to radiation through the sun's rays. I would like to explore how this may cause health issues and birth defects.

METHODS

- I research radiation damage and its affects on human health.
- I explored the various birth defects and health issues surrounding radiation exposure.
- I investigated how radiation from sun exposure affects human health.
- I researched past events where humans were exposed to high amounts of radiation in order to get a better understanding on the real dangers.

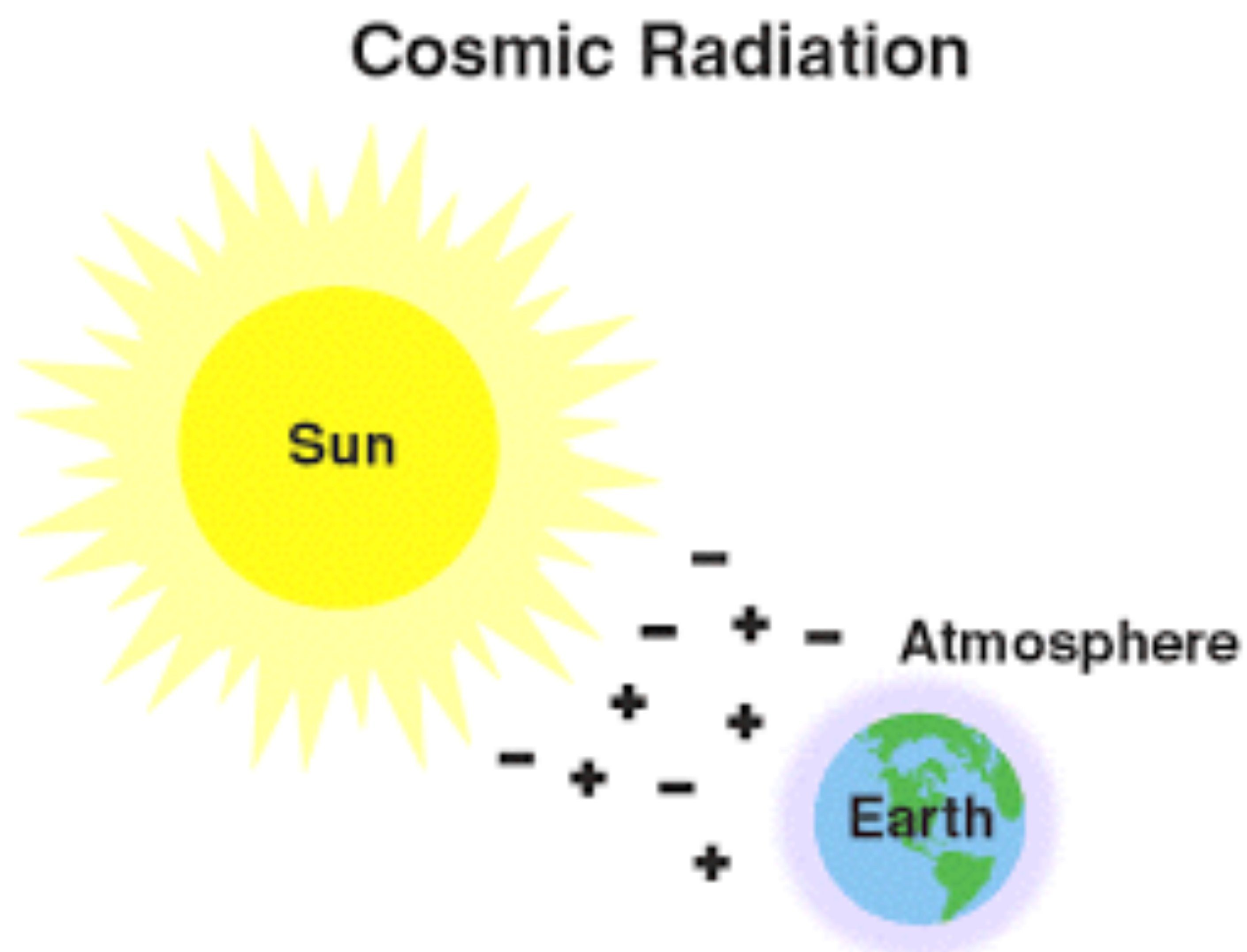


Figure 2. Cosmic Radiation. Image retrieved from NRC.gov

RESULTS

- "ionizing radiation." can disrupt atoms, creating positive ions and negative electrons, and cause biological harm. Including but not limited to cancer.
- The unstable nuclides with very long half-lives, together with their radioactive progeny, constitute the natural radioactivity on Earth today.
- Other effects of radiation, include an increased risk of genetic defects and, for exposures of the fetus before birth, of mental retardation.

CONCLUSIONS

To conclude this research, it is important to understand that while radiation is extremely damaging to human health and the environment, it is naturally occurring around us. Through the sun's rays and other sources, we are constantly exposed to radiation. As human beings, we must find ways to combat radiation and protect ourselves from their damaging effects.



Figure 4. Graphic for "radiation" retrieved from wikipedia.com

FUTURE WORK

Future work in this area may include the pursuit of more information on how human beings can combat the increase in radiation doses from the sun as well as future nuclear disasters like Chernobyl. With the ozone depleting, it is crucial for us to understand how we will adapt to protect the future of humanity itself. It is also important for future research to be done in order to better understand health defects

References

- B.W. Wheeler, J. Allen, M.H. Depledge, A. Curnow Radon and skin cancer in southwest England: an ecologic study *Epidemiology*, 23 (2012), pp. 44-52
- N. Vogeltanz-Holm, G.G. Schwartz Radon and lung cancer: what does the public really know? *J. Environ. Radioact.*, 192 (2018), pp. 26-31, 10.1016/j.jenvrad.2018.05.017

EXPLAINING RADIATION DOSES



Figure 1. Explaining Radiation Doses. Image retrieved from Ansto.gov

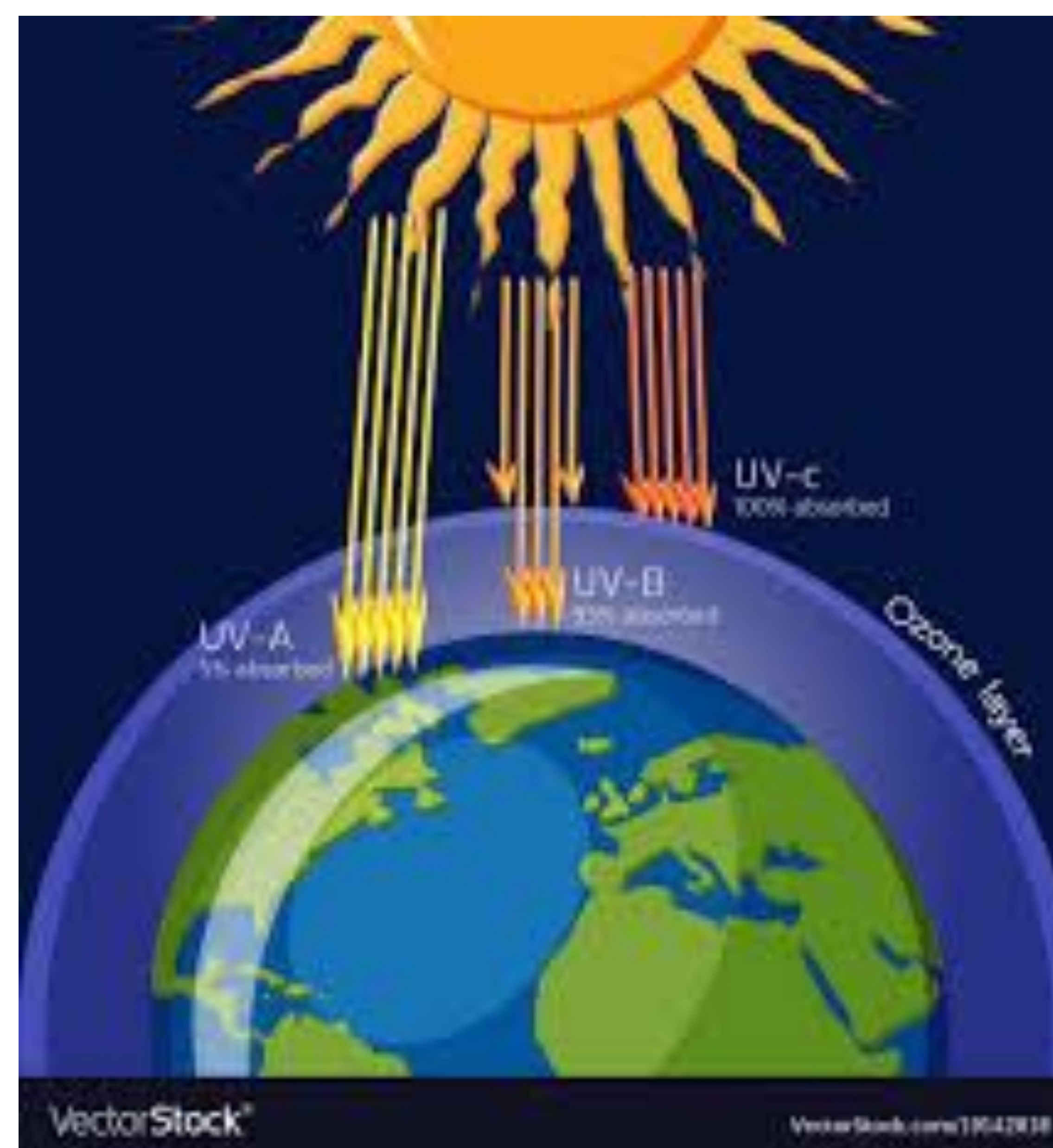


Figure 3. Sun's UV Rays, image retrieved from VectorStock