

Abstract

Project Title: Go Towards the Light!

Project ID: 666

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My family and I see bugs and various insects fly towards the light, and I've wondered why they are attracted to the light? I wanted to investigate why bugs and various insects fly towards the light. I want to know if different light sources affect bugs and insects differently. Using the light tracking robot I built as our "bug" I was able to test different light sources to see how phototaxis works, and see which light source will make my "Buzzy Bot" robot move the best.

In order to gain a better understanding of what phototaxis is I had to research the term. Phototaxis is the movement of an organism that moves towards or away a source of light (Greenwald, 2018). Positive phototaxis is a bug moving towards the light, and negative phototaxis is when they (the bugs/insects) move away from the light. So, in theory, phototaxis is the reason behind why bugs and insects are attracted or repelled by light sources. The bugs that are most commonly associated with flying into porch lamps for example, moths and flies are positively phototactic, meaning that they are attracted to light. Some insects, like the cockroach are negatively phototactic and will be repelled away from the light when light sources come on. I think the brightest light will make my light tracking robot (Buzzy Bot) move the best. I believe this because most bugs are attracted to bright lights due to having positive phototaxis.

I discovered that my data supported my hypothesis in being that different light sources did indeed attract "Buzzy Bot." I performed five trials on various surfaces using two different light sources. In my experiment, there was positive phototaxis shown because the light tracking robot, "Buzzy Bot" followed the light path.