



**CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY**

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| Name(s) Jazlynn G. Pastor | Project Number S1117 |
| Project Title It's Getting Hot in Here! | |
| Abstract Objectives/Goals The purpose of the experiment is to determine if an increase of temperature affects the life cycle of plants and animals. Also, how and why an increase of temperature does or does not affect the plant or animal. Methods/Materials Four caterpillars were grown during this experiment; two were raised with normal room temperature, and the other two were raised under a clamp lamp (to serve as a fixed heated temperature). Each day, the caterpillars were measured in weight and length - until it reached the third stage of metamorphosis. In the second part of the experiment, two separate pots of calendulas were grown. One pot was grown in normal room temperature, and the other was grown under a clamp lamp (for a fixed heated temperature). When the flowers began to sprout, their height and weight were measured daily. Also, the temperature of the soil in both pots were measured. Results The variable, the caterpillar raised in a hotter temperature, hatched two days earlier than the controls. It grew with a thicker body and smaller wings which were brown and dark orange. Its behavior was hostile and alarmed towards movement. The variable was unable to fly because its wings were dried out and wrinkled due to the heated atmosphere - It died two weeks later(a week shorter than the average span of a butterfly). The results of the second variable created a new statement to my hypothesis: an animal can die if it is raised in a warmer climate. The second variable was not able to pass the third stage of metamorphosis. It turned brown and shriveled. The larva is visible because its greenish tint appears through the cocoon. In comparison, the controls, the caterpillars raised in regular temperature, grew colorful and lively. Their wings were orange, red, and yellow, and their bodies were slender and evenly proportioned with its wings. Their behavior was not threatening like the variable. When released, the controls flew away without difficulty. For plants, their life span occurs faster if their atmosphere's temperature is increased. The variable grew two days earlier than the control, and was taller and greener. Compared to the control, the variable's soil was usually warmer (because it was constantly under a heated temperature). Conclusions/Discussion An increase of temperature affects the life cycle of plants and animals. It may also affect their behavior and appearance. | |
| Summary Statement The effect of global warming on the life cycle of plants and animals. | |
| Help Received I performed this experiment independently. | |