CALIFORNIA STATE SCIENCE FAIR
2010 PROJECT SUMMARY

Name(s)
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Project Number
J2423

Project Title
On the Snail Trail: Effects of Moisture and Temperature on the Movement of Snails

Abstract

Objectives/Goals
My experiment was designed to discover whether or not moisture and temperature affect snail movement. My hypothesis was that snails would move farther on warm, damp nights because snails are cold blooded and therefore have low metabolism on cold nights, and because they use slime to lubricate the path in front of them and therefore a moist surface would lessen the amount of slime needed to move.

Methods/Materials
During the day, I marked many snails (that had taken refuge in three different buckets) with different colors of paint corresponding to their specific bucket. Three hours after sunset, I returned to the backyard with a flashlight and marked the position of the snails using color-coded Popsicle sticks. I also noted the temperature and moisture conditions. On the following day, I measured the distance the snails traversed as marked by the Popsicle sticks. I re-marked the snails every day, and repeated this process for 18 nights until I had data points for most temperature/moisture combinations.

Results
My results show that snails move farther on warm and damp nights. On cold nights (<5 degrees C), snails moved an average of 0.7 inches when it was dry. On medium temperature nights (5-10 degrees C), they moved an average of 7.4 inches when it was dry and 33.2 inches when it was damp or rainy. Finally, on warm nights (>10 degrees C) they moved an average of 20.5 inches when it was dry and 29.5 inches when it was damp or rainy.

Conclusions/Discussion
The results of this experiment support my hypothesis. The observation that snails move farther on warm nights is consistent with the fact that on cold nights they have low metabolism, and they only feed in temperatures from 5-25 degrees C. On damp nights snails move farther, which is likely because the moisture lessens the amount of slime they need to move forward. Generally, moisture had the greatest affect on snails when the temperature was 5-10 degrees C.

Summary Statement
My project examines the movement of snails under different moisture and temperature conditions.

Help Received
Dad helped me collect data; Mom helped edit report; Mr. Steely offered advice and encouragement.