



**CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY**

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| Name(s) Aram Z. Angelo | Project Number S2401 |
| Project Title The Amazing Gecko | |
| Abstract Objectives/Goals My projects purpose was to use two geckos & test their vertical running time on 7 surfaces with added conditions. I added 2 more surfaces and changed the pH factor of the rain water. Various trial & error methods were used to get the geckos to run up a straight line. I e-mailed Professor Autumn & interviewed Dr. Yazejian, Mount Saint Mary's College. I came up with the idea of imitating tropical wind by using a blow dryer. I also made sure they didn't get tired; after three months of testing, I finished my trials with 7 trials for each surface and condition & ended up with 310 trials. Methods/Materials Tokay Geckos, Engineered Wood, Spring Scale, Bark, Rain & Ocean Water, Leaf, gloves, Rock, Band-Aids, Glass, Running Lanes, pH Measuring Kit, Plastic, Grass (skirt), Stucco, Twine Rope, Stopwatch, Blow Dryer, Measuring Tape Before I started, I spoke with a Veterinarian to get safety approvals. I redid all my force tests, then began testing for my new project. After trial and error, I found it hard to keep my geckos to run an upward straight direction. I created a lane. The surfaces I used were engineered wood, leaf, glass, bark, rock, stucco, & plastic. I added rain water & ocean water to the surfaces. I put my gecko's at the bottom of the surface & made them run up 6 feet. Results After repeating last year's force test for consistency, I concluded that glass & leaf did the best. After studying my 10 test results on 7 different surfaces with the varied conditions, On average under normal conditions, the geckos had the best running time on the engineered wood (5.59s), with the added 6.0-7.0 pH rain: glass (14.25s), with the added ocean water condition, pH 7.0-8.0 (13.9s). With all the added conditions combined, my geckos had the best running time on engineered wood (13.0s). Conclusions/Discussion My hypothesis of geckos having the best vertical running time across glass opposed to other surfaces/conditions was false. My results showed that the running time of a gecko depended on the surface and its condition. Engineered wood had the best running time. With rain water, 6.0-7.0 pH, they had the best running time on rock. With rain water, 7.0-8.0 pH, my geckos had the best running time on the rock. With ocean water, with 7.0-8.0 pH, on each of the same surfaces, they had the best running time on the bark. My studies of all conditions combined on each of the 7 surfaces, engineered wood was the best result. | |
| Summary Statement In 2008, I tested the adhesion force of a gecko's foot pads, and in 2009, I calculated the running time and speed of two geckos over various surfaces. | |
| Help Received Interviewed Dr. Molnar, Veterinarian for gecko safety, communicated with various professors listed in articles i read; and mom drove me around | |