



**CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY**

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| Name(s) Laura E. Van Alstine | Project Number S0614 |
| Project Title Health... in a Handful of Dust? | |
| Abstract Objectives/Goals To prove whether or not rock dusts rapidly add a great deal of nutrients to soils, as opposed to chemical fertilizers. Methods/Materials Firts, four soils from four areas were collected: one from the student's backyard, one from the vicinity of the Conejo Valley, one from the vicinity of Buena Ventura State Park, and one from store-bought potting soil. Each soil's pH and levels of nutrients (nitrogen, phosphorous, and potassium) were determined with the use of an Accugrow SOil Test Strips kit. Each of the four soils were divided into four containers. Then, the two types of granite rock dusts were added to the first two containers. These steps were repeated for each soil sample from each different area. After a period of one day, each soil from each different container was tested for its pH level, as well as for its nutrient levels. After a period of two days, the previous step was repeated and changes in soil nutrient levels as well as changes in the level of pH were observed. Results Overall, the rock dusts did not have a large impact on the nutrient levels or the pH of the soil. The fertilizers, however, had a large impact on the nutrient levels, but not on the pH's different types of soil. Conclusions/Discussion Rock dusts do not rapidly add nutrients to soils, while chemical fertilizers do. Rock dusts also do not rapidly affect the pH's of soils. Further, fertilizers do not significantly affect the pH's of soils. | |
| Summary Statement Rock dusts do not add a great deal of nutrients very quickly to soils, while chemical fertilizers do. | |
| Help Received Mother drove to different areas to gather soils samples and helped to find materials for the project. The Vulcan Mining rock quarry in Satcoy, California supplied the two types of granite rock dusts. | |