



**CALIFORNIA STATE SCIENCE FAIR
2017 PROJECT SUMMARY**

Name(s) Kaitlyn A. Russo	Project Number S1118
Project Title The Remediation of Water Loss in a Vertical Garden	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals When using vertical gardens, there always seemed to be one problem, they don't hold moisture very well. The purpose of this experiment was to find an effective and efficient way to keep moisture in the soil for a longer period of time.</p> <p>Methods/Materials For this experiment, I set five vertical gardens, each with a different method to hold moisture in the soil. One with mulch, second with clear plastic sheeting, third with water crystals, fourth was the control and fifth with sponges. Then the gardens were watered and moisture levels were taken for two weeks. Then a second experiment was performed with using six vertical gardens. One with a clear plastic sheet, the second with water crystals, the third with a mycorrhizal fungus, the fourth with water crystals and a clear plastic tarp, fifth with water crystals and mycorrhiza; fungus, and the sixth was the control. After set up, the gardens were watered and moisture levels were measured for two weeks.</p> <p>Results After the completing experiment, I found that my hypothesis that the clear plastic sheeting would help the most, wasn't supported and the water crystals actually helped retain moisture the most.</p> <p>Conclusions/Discussion Vertical Gardens today are becoming more useful because we are running out of room on earth to have big plots of land. This was a helpful experiment because it shows effective ways to keep moisture in the soil and help the plants. Because of the vertical gardens lack of depth, the soil is not deep enough to hold moisture, methods like using water store crystals help keep the soil moist for a longer period of time</p>	
Summary Statement As measured through 5 different methods, the most effect way to keep soil in a vertical garden moist for a longer period of time is the water storing crystals.	
Help Received The vertical gardens I used came from a grant given to my school Clovis High and I conducted my experiment at Clovis High with the help from my science fair adviser Carolyn Mendonca.	