



**CALIFORNIA STATE SCIENCE FAIR
2012 PROJECT SUMMARY**

Name(s) Will McConnell; James Valencia	Project Number J1014
Project Title Can Gray Water Be Recycled to Water Plants?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals Our experiment determined whether common household gray water could be recycled to water plants without negatively affecting their growth. This could have the potential to reduce the amount of fresh water used around the world and lessen the strain on sewage treatment facilities.</p> <p>Methods/Materials In our experiment, we divided fifteen of the same type of plants into five different groups each watered with a different concentration of grey water. The groups were either watered with 100% grey water, 50% grey water and 50% tap water, 25% grey water and 75% tap water, 75% grey water and 25% tap water, or pure tap water (which was the control). We hypothesized that the health of the plants being watered with the 75% gray water and 25% tap water will not be significantly reduced. Every other day, we watered each plant with a designated amount of its allocated compound/liquid. We left them indoors in an area where they each received an equal amount of sunlight. We observed the plants every day, and every four days took pictures and measurements of the average height of the stalks, and the tallest stalk. We also compared pH levels, turbidity levels, and dissolved oxygen levels in the gray water</p> <p>Results The results have shown that the plants watered with the 50% - 50% liquid grew the most in average height at 12.7 cm. The plants watered with 75% grey water and 25% tap water grew the least at 8.5 cm in average height. All other plants grew more than the control plants which grew 9.8 cm in average growth. The results also showed that all of the plants watered with any amount of grey water had a higher average tallest stalk than the plants watered with tap water.</p> <p>Conclusions/Discussion We have concluded that grey water can be used to water plants without any adverse effect on its growth.</p>	
Summary Statement The purpose of our project was to determine if grey water can be used to water plants without any negative affect to the growth of the plants.	
Help Received Mr. Lyle Hatridge provided us with equipment to determine ph levels, dissolved oxygen levels, and turbidity level of the waters.	