



**CALIFORNIA STATE SCIENCE FAIR
2007 PROJECT SUMMARY**

Name(s) Gregory M. Cloud	Project Number J1010
Project Title Gray Water Effects on Plant Growth	
Objectives/Goals Gray water is the water that comes from sinks, clothes washers, showers, and dishwashers. The gray water contains detergents (soaps) and other particulates (dirt, food bits, etc.). I want to know if gray water affects plant growth.	
Abstract	
Methods/Materials Materials: 12#3-inch Peat Pots; 2#500 ml bottles each filled with bath water, dish water, laundry water, and regular water; 4 seedlings of each: broccoli, peas, and green onions; 24x12-inch tray; planting compost; ruler; 12 plant tags; sunlight. Methods: 1. Fill Peat Pots with organic potting soil. 2. Plant all 12 plants in the peat pots. 3. Label each plant #control,# #bath,# #laundry,# or #dish.# 4. Gather bath water, laundry water, and dish water. Control water is purified bottled water. 5. Water them as needed with their assigned type of grey water (Control, Dish, Bath, and Laundry Water.) 6. Place the plants in a sunny window in the house to control the temperature and maximize sun exposure to help growth. 7. Measure and record the height of each plant every time they were watered.	
Results None of my plants died during the testing. The data I collected showed that broccoli plants didn't grow at all. It is possible that either the broccoli grows at a slower rate than the other plants or because some leaves fell off, the relative measuring point was not the same throughout the experiment. The green onion and pea plants grew at approximately the same rate regardless of the type of water used.	
Conclusions/Discussion All the plants grew at a comparable rate. I think that water containing large amounts of detergents may affect plant growth but, the amount of detergents in gray water typical in a household does not appear to hurt the plants.	
Summary Statement Can gray water be used instead of potable water to water certain types of plants.	
Help Received My parents helped me prepare my display board.	