



**CALIFORNIA STATE SCIENCE FAIR
2014 PROJECT SUMMARY**

Name(s) Nathifa Nasim	Project Number 34560
Project Title Using Different Species of Houseplants on Reducing the Amount of CO in the Air	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The purpose of my project is to investigate to see which houseplant removes the Carbon Monoxide (a toxic gas) in thirty minutes. Based on my research, the hypothesis I formed is that if I use a fast growing plant like the Spider Plant, then the most CO will be removed.</p> <p>Methods/Materials I used five species of plants: Peace Lily (Spathiphyllum cochlearispathum), Gerbera Daisy(Gerbera jamesonii), Warneck Dracaena(Dracaena deremensis), Spider plant(Chlorophytum comosum), and pothos(Epipremnum aureum. I enclosed each plant with a CO monitor inside a trash bag securely held down, and I inserted a pipe with one end connected to the exhaust pipe of the car, and I measured the amount of CO in the bag and then after every five minutes for half an hour. I repeated three times with a pot of soil as my control.</p> <p>Results My results showed that in 30 minutes the Spider Plant removed 119 ppm total, the Warneck Dracaena reduced the level of CO by 96 ppm, and the Pothos removed 62 ppm. 95 ppm of CO was reduced by the Gerbera Daisy, and lastly, the Peace Lily removed 14ppm. The Spider Plant removed the most Carbon Monoxide, while the peace Lily was the least efficient out of all the plants. The soil, or the control, removed 63 ppm.</p> <p>Conclusions/Discussion I reached the conclusion that based on my experiment plants can reduce the amount of Carbon Monoxide in the air significantly. The hypothesis I had formed that if I use the Spider plant the largest amount of CO will be reduced, was correct. This was probably because plants remove Carbon monoxide with the help of microorganisms in the soil, or they break them down into their organic tissue such as amino acids. The soil removed 63 ppm, which was the fourth efficient. This shows that having a plant plus soil is more effective than just soil, though it does remove CO, because there are bacteria in the soil which helped remove it. My results prove that a plant is necessary for removing more CO, and it does have apart in removing toxic gases, not just the microorganisms.</p>	
Summary Statement I am investigating which species of houseplant removes the most CO from the air.	
Help Received Mother and Father assisted me in preforming and planning the experiment; teacher gave advice and helped me decide on a project	