



**CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY**

Name(s) Layla G. Stefanacci	Project Number J1612
Project Title The Antibacterial Effectiveness of Essential Oils	
Abstract Objectives/Goals The objective is to determine how effective four different essential oils (thyme, lavender, geranium, tea tree) are in killing Escherichia Coli K-12. Methods/Materials Nutrient broth was made and incubated for 24 hours. After this period, the choice oil was added. The mixture was then diluted six times over, from 1:1 to 1:100000 and each one of these was plated. After the plates being incubated for 24 hours, the one with colonies between 30-200 would be used for future testing. Results Thyme oil proved to be the most effective, leaving about 349,000 bacteria after treatment. Lavender oil was the least effective and left an average of 3,500,000 bacteria. Conclusions/Discussion Essential oils are more than home remedies and should be considered further in the scientific community.	
Summary Statement My project focuses on how effective essential oils are in killing Escherichia Coli K-12.	
Help Received Mother/Father proofread paper and bought materials	