



**CALIFORNIA STATE SCIENCE FAIR
2016 PROJECT SUMMARY**

Name(s) Ahmad Ismail	Project Number J1610
Project Title Yeast Busters: Stopping Fungus in Its Tracks with Antifungal Medicine	
Abstract Objectives/Goals The objective of this study is to determine the effectiveness of treatments for fungal infections. Methods/Materials The method of collecting data for this study is water volume displacement. First, the gas collection apparatus was set up which consisted of an inverted graduated cylinder with plastic tubing connected to a plastic bottle and plastic tub. Then, the different antifungal agents were tested at two different concentrations: 100 and 1000 fold dilution, applied to a solution of yeast and sugar. Results The effectiveness of the treatments were compared after conducting multiple trials in the gas collection apparatus. The performance of the azoles were shown to be better than the allylamines. The effectiveness of the third-category of antifungal agents was found to be between the azoles and the allymines. The study also showed that a decrease in dilution of the medicine by 10 decreased the performance by a factor of 2. Conclusions/Discussion The performance of azoles for treatment of fungal infections was the most effective. This means that azoles can serve as a more effective medicine in removing fungus as compared to the other medicines tested.	
Summary Statement I tested the effectiveness of different antifungal medicines using a gas collection apparatus and found azoles to be the most effective.	
Help Received I designed and built the gas collection apparatus by myself. I got help in understanding the structure and behavior of the antifungal agents from the website of the National Institutes of Health. My Science teacher guided me through the project and reviewed my results.	