



CALIFORNIA STATE SCIENCE FAIR 2012 PROJECT SUMMARY

Name(s) Sean J. Panado	Project Number J1509
Project Title Mini Monsters	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective is to determine the quantity of microorganisms collected by 7th and 8th graders after playing during recess.</p> <p>Methods/Materials 7th and 8th grade trial participants from two different schools were excused to leave early for recess on each day of the five trials. Each subjects# hands were washed, measured, swabbed, then rubbed in a zigzag pattern onto one half of a 9cm petri dish with his/her name on it. This first swabbing was marked as #before# referring to the before playing during recess. After playing, a second swabbing of my subjects' hands was rubbed onto the opposite half of the petri dish indicating the 'after' period. I chose my subjects to play basketball as it is the most commonly played game at recess and research shows. Using 6in sterile cotton tipped applicators, the technique of the 4 quadrant method, and fifty school subjects, the data was recorded.</p> <p>Results The number of colonies produced in the cultured dishes when hands were washed, also known as the #before# playing, was an average of five. Whereas the sample after recess playtime averaged twenty-one colonies. Subtracting the overall mean 'before' from the mean 'after' gives a net of sixteen. Therefore, this shows that you gain sixteen colonies of microorganisms during your time of play. In finding the difference of the after results between the control and the subjects gives a net of fourteen. This explains that you would gain fourteen more colonies playing basketball at recess than you would just walk around with your friends.</p> <p>Conclusions/Discussion The readings of the colony forming units (CFUs) after 3 to 4 days of culturing in isolated room temperature were observed. Colonies formed were of big and small sizes along with some close or clustered. I came to conclude that despite the hand size and amount of basketball dribbles and shots a subject takes at recess, these don#t provide results that vary or change significantly the mean of the cultured colonies. Microorganisms gathered and collected through the hands as observed here show that it is based off of how the specific person handles and treats his/her hands daily. These include what one touches, temperature, and where and how long one plays during recess.</p>	
Summary Statement My project was about how I determined the amount of microorganisms 7th and 8th graders gather when playing during recess at school.	
Help Received College professor lent few materials and allowed lab tour; mother advised and supervised throughout; brother assisted in spray painting backboard	