



**CALIFORNIA STATE SCIENCE FAIR
2010 PROJECT SUMMARY**

Name(s) Aisha Prasad	Project Number S1720
Project Title DNA Transformed!	
Abstract Objectives/Goals The purpose of my experiment was to check whether size of a plasmid affects how easily it is accepted into E Coli cells. I believe that a plasmid with a fewer number of base pairs will be more easily accepted into E Coli cells than a plasmid with a larger number of base pairs. Methods/Materials Competent E Coli cells were given a shock treatment and then treated with plasmids of different sizes and antibiotic resistant genes. They were then placed in agar dishes with the corresponding antibiotic and observed on how well they grew. The more the growth, the more efficiently the plasmids were accepted by the E Coli cells. Results In the first year of my experiment, E Coli cells with the larger plasmid (Fmini) had a lower rate of resistance to the antibiotic and therefore, had fewer bacterial colonies than the E Coli cells with the smaller plasmid (pUC19). In my second year of experiment, none of my organisms grew, because of an error in the process of my experiment. Errors include overheating, incorrect application of bacteria, lack of precision, and lack of sterilization. Conclusions/Discussion Overall, I discovered the size of a plasmid does affect how efficiently it is accepted by E Coli cells. Although my second experiment was a failure as it was fruitless, I learned much from my first experiment and strive to continue my experiment. This information can be applied into the field of cancer and other types of research. For example, in genetically mutating cells to program them to destroy cancerous cells, with my research, a scientist will know to give preference to the plasmids with the fewer base pairs, because they will be more easily accepted into the cells.	
Summary Statement My project is about whether size affects how well a plasmid is accepted into a bacterial cell.	
Help Received Used lab equipment at California Baptist University under the supervision of Dr. Dennis Bideshi.	