



CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY

Name(s) Kristina Smith	Project Number 22477
Project Title A Study of the Influence of the Type of Reinforcement on the Structural Efficiency of Concrete Wall Panel Specimens	
Abstract Objectives/Goals Will steel fiber reinforced concrete wall panels have strength characteristics that will meet or exceed the strength characteristics found in conventionally reinforced wall panels when bending and compressive forces? Methods/Materials Build manometer, deflection meter, manifold, steel forms, test stand, and 9 concrete wall panels (unreinforced, 3 re-bar reinforced, and 3 steel fiber reinforced). Tested wall panels using bending and compressive loads while measuring pressure and deflection. Results The wall panels containing steel re-bar showed strength characteristics which were greater than the panels containing steel fibers and no reinforcement. Conclusions/Discussion Even though the strength characteristics did not exceed those of the re-bar, the fiber reinforced specimens showed characteristics that were quite similar to those with re-bar reinforcement. Both types of reinforcement gave the wall specimens added strength and ductility.	
Summary Statement I studied the influence that the type of reinforcement has on the structural efficiency of full scale concrete wall panel specimens.	
Help Received Howard Turner - operated crane, Joseph Engel - mentor, Mark Neal - assisted board construction	