California Science Center

CALIFORNIA STATE SCIENCE FAIR

2001 PROJECT SUMMARY

Your Name (List all student names if multiple authors.)

Jonathan C. Kibrick

Science Fair Use Only

J1017

Project Title (Limit: 120 characters. Those beyond 120 will be ignored. See pg. 9)

Don't Give Me Any Static: The Static Potential of Flooring and Clothing Materials.

Division

J Junior (6-8) J Senior (9-12)

Preferred Category (See page 5 for descriptions.)

10 - Materials Science

Abstract (Include Objective, Methods, Results, Conclusion. See samples on page 14.)

Use no attachments. Only text inside these boxes will be used for category assignment or given to your judges.

My investigative question was #What flooring materials create the least and the most static electricity? Does what you wear matter?: I wished to find the flooring materials that create the least static. I also wanted to see if the clothing you wear effects the results. I predicted that the pile carpet would create the most static since there is more variation of pile allowing more touching between the two objects thus creating more static. I also thought that the soft vinyl flooring would create the least static electricity. I conducted experiments with these materials: 1 piece carpet pad, 1 sample of #Horizon# 100% polyester carpet with static guard, 1 piece of light colored soft vinyl flooring, 1 piece of dark colored soft vinyl flooring, 1 vinyl composite tile, 1 piece rubber tile, 1 sample of vinyl tile, 1 sample #Tuffex# filament nylon, carpet with static guard, rubber gloves, sheet of glass, 100% wool scarf, 100% acrylic sweater, 100% cotton sweater, 100% polyester shirt, 1 Singer Company sensitive research electrostatic volt meter. The tests were conducted by rubbing the clothing material across the flooring material. The flooring and the tester were isolated from ground. I found that the vinyl composite tile created the least static with the highest charges being only .04 KV. The soft vinyl created the most static electricity creating charges over 4 KV.

Summary Statement (In one sentence, state what your project is about.)

This project studies the static potential of flooring materials as they interact with clothing materials.

Help Received in Doing Project (e.g. Mother helped type report; Neighbor helped wire board; Used lab equipment at university X under the supervision of Dr. Y; Participant in NSF Young Scholars Program) See Display Regulation #8 on page 4.

Family proofread report. To conduct the tests required two people: one to rub the materials together and one to read and record the readings. I was assisted by my father, but I collected and recorded all of the measuements. The electrostatic voltmeter